

1 **Research Article**

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4 **Urinary proteome of dogs with kidney injury during babesiosis**

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22 **Abstract**

23           This study aimed to identify proteins found in the urine of dogs with renal dysfunction  
24 leading to acute injury during the natural course of babesiosis (n=10) and to compare them  
25 with proteins of a control group (n=10) to reveal any potential biomarkers of renal damage.  
26 Pooled urine samples of both groups were separated by 2D electrophoresis (two dimensional  
27 electrophoresis), followed by the identification of all proteins using MALDI-TOF mass  
28 spectrometry (matrix assisted laser desorption ionization-time of flight). In total, 176 proteins  
29 were identified in the urine samples from healthy dogs, and 403 proteins were identified in the  
30 urine samples from dogs with babesiosis. Of the 176 proteins, 146 were assigned exclusively  
31 to healthy dogs, and 373 of the 403 proteins were assigned exclusively to dogs with  
32 babesiosis; 30 proteins were common to both groups. Characteristic analysis of the 373  
33 proteins found in dogs with babesiosis led to the isolation of 8 proteins associated with 10  
34 metabolic pathways that were attributed to immune and inflammatory response development.  
35 Furthermore, it was hypothesized that the epithelial-mesenchymal transition might play an  
36 important role in mechanisms underlying pathological renal tissue changes during babesiosis,  
37 as indicated by a causal relationship network built by combining 5 of the 10 selected  
38 metabolic pathways and 4 of the 8 proteins associated with these pathways. These included  
39 cadherins, gonadotropin releasing hormone receptors, inflammatory responses mediated by  
40 chemokine and cytokine signalling pathways, integrins, interleukin and TGF- $\beta$  (transforming  
41 growth factor  $\beta$ ) pathways. These pathways were linked by interleukin-13, bone  
42 morphogenetic protein 7,  $\alpha$ 2(1) collagen, and FER tyrosine kinase, which are potential  
43 damage biomarkers during babesiosis in dogs that might be assigned to early renal injury.

44

45 *Keywords:* Acute kidney injury; Babesiosis; Dog; Proteomics; Urine

## 46 **Introduction**

47           After heart failure, kidney disease is the most frequent cause of lowering the quality  
48 and shortening the life of people and dogs. Kidney injuries, which take one of two forms,  
49 acute kidney injury (AKI) and chronic kidney disease (CKD), are caused by various factors.  
50 In humans, 7.8% of patients with AKI also develop CKD, and 4.9% of patients reach end-  
51 stage renal disease [1] . Most AKI cases in medicine and veterinary science are diagnosed  
52 based on the serum or plasma concentrations of non-protein nitrogenous creatinine (Cr) and  
53 urea compounds. The sensitivity of this method is small and not suitable for early AKI  
54 detection [2], and seeking markers and methods adequate for the early detection of glomeruli  
55 and/or tubule injury before the decreased glomerular filtration rate (GFR) is signalled by  
56 increased Cr concentrations is thus necessary [3–6]. One such method is proteomic analysis,  
57 which compares the protein profiles of normal urine with those typical for a given disease to  
58 select potential diagnostic, therapeutic and prognostic biomarkers [7,8]. With decreased  
59 GFRs and subsequent azotemia and urea, AKI is among the most frequently occurring  
60 complications of babesiosis in dogs and may provide a natural model for identifying early and  
61 specific markers of kidney injury in this species [9,10]. Moreover, during babesiosis occurring  
62 naturally in dogs, AKI potentially provides a good model for selected studies on AKI in  
63 humans. This is indicated by comparative analysis of the urine proteomes in humans and  
64 dogs, as many proteins related to human diseases, including kidney diseases, have been  
65 identified in canine urine [11,12]. In addition, domestic dogs (*Canis lupus familiaris*) are  
66 increasingly perceived as an excellent animal model for studying complex human diseases  
67 [13]. Because they have a fully described genome and share a habitat with humans, dogs may  
68 be used for epidemiological studies on diseases shared between the two species. Canine DNA  
69 and protein sequences are much closer to humans than those of mice, suggesting that dogs are  
70 also more similar to many aspects of human biology than mice [14–16]. This study aimed to

71 identify proteins found in the urine of dogs with renal dysfunction leading to acute injury  
72 during the natural course of babesiosis and compare them with proteins of the control group to  
73 reveal any potential biomarkers of renal injury.

74

## 75 **Materials and methods**

### 76 *Animals and sample collection*

77 Dogs were enrolled during routine admission to Faculty of Veterinary Medicine  
78 clinics at the University of Life Sciences in Lublin. Informed consent was obtained from the  
79 owners prior to the clinical investigations and sample collections. The studies were reviewed  
80 and approved by the Ethics Committee of the University of Life Sciences in Lublin (Poland)  
81 No 70/2018. The study involved 20 mixed-breed dogs (10 males, 10 females) weighing 5–8  
82 kg (median 6.2 kg) and aged 2–7 years (median 4.35 years), divided into two groups. All dogs  
83 underwent individual clinical and laboratory tests to determine their health status, and in  
84 particular in diseased group to show signs of kidney damage. Group 1 (study group, n=10;  
85 five males and five females), consisted of dogs naturally infected with *B. canis*, while group 2  
86 (control group, n=10; five males and five females) consisted of healthy [17]. All dogs in the  
87 first group showed symptoms of babesiosis (apathy, anorexia, changes in urine colour, pale  
88 mucous membranes), and haematology analysis revealed thrombocytopenia (platelets  $12\text{--}88 \times$   
89  $10^9/l$ ) and anaemia (erythrocytes  $3.5\text{--}5.3 \times 10^{12}/l$ .) All dogs were nonazotemic, serum  
90 creatinine concentration remained within the reference range. All dogs in this group had  
91 *Babesia*-positive blood smears, which were additionally confirmed by PCR, performed  
92 according to the protocol described by Adaszek and Winiarczyk [9]. Possible co-infections  
93 (borreliosis, anaplasmosis, ehrlichiosis) were excluded in all dogs based on PCR and ELISA  
94 results [18]. All dogs of the first group were successfully treated with imidocarb (5 mg/kg  
95 s.c.). Dogs of group 2 were clinically healthy and were referred to the clinic for vaccination

96 purposes. Blood smear analysis and PCR for *B. canis* gave negative results for all animals of  
97 this group. Voided midstream urine samples were collected in the morning, and each sample  
98 was centrifuged on the day of collection at  $500 \times g$  for 10 minutes at  $4^{\circ}\text{C}$ . The supernatants  
99 were removed, and protease inhibitors were added (Protease Inhibitor Cocktail, Roche  
100 Diagnostic Corp.). Urine protein (low proteinuria denoted by “+”, moderate proteinuria  
101 denoted by “++”, and severe proteinuria denoted by “+++”) and Cr concentrations were  
102 measured by the enzymatic colorimetric method (BS-130 analyser, Mindray), and basic  
103 urinalysis with microscopic sediment analysis was performed on the fresh urine samples.  
104 Urine specific gravity (USG) was measured using a refractometer. The remaining urine was  
105 frozen at  $-80^{\circ}\text{C}$  for further analysis. Macroscopic evaluation of urine in group 1 showed  
106 yellow to dark brown sample colours, while all group 2 samples were yellow. Urine protein  
107 analysis revealed proteinuria in eight of the 10 group 1 dogs, and eight dogs of this group also  
108 had urine protein/Cr ratios  $> 0.5$ . Urine dipstick analysis showed haemoglobinuria in seven of  
109 the 10 group 1 dogs, which was severe (+++) in two dogs. Urine specific gravity decreased in  
110 all diseased dogs and amounted to 1.015 on average. None of the control group dogs had  
111 proteinuria or haemoglobinuria. Statistically higher concentrations of urinary biomarkers  
112 (uIgG/uCr, uTHP/uCr, and uRBP/uCr) were found in the urine samples of all dogs with  
113 babesiosis compared to those in the control animals ( $p < 0.05$ ), indicating dysfunctional  
114 glomerular and tubular kidney regions [17]. For proteomic analysis, 10 individual urine  
115 samples (0.5 ml each) from groups 1 and 2 were collected and pooled from affected and  
116 healthy dogs, respectively. Each pooled urine sample was subjected to desaltation on the filter  
117 to enable quick ultrafiltration with a high-density coefficient (Amicon Ultra Merck). Protein  
118 concentrations were measured with a microlitre spectrophotometer (NANO), and the urine  
119 samples were then prepared and subjected to 2D electrophoresis. Each individual gel spot was

120 then analysed by mass spectrometry with the MALDI-TOF (matrix-assisted laser desorption  
121 ionization – time of flight) technique.

122

### 123 *2D electrophoresis*

124 Two-dimensional electrophoresis was used to separate the proteins contained in the  
125 tested urine samples [19]. Preliminary tests have shown that the optimum amount of protein  
126 for 2D electrophoresis is 85 µg; thus, this amount of protein was broken down via a  
127 precipitation and purification kit (ReadyPrep™ 2-D Cleanup Kit, Bio-Rad, Warsaw, Poland).  
128 The obtained protein pellets were then dissolved in a rehydration buffer, and the resulting  
129 solutions were applied to a rehydration plate and covered with 17-cm immobilized pH  
130 gradient (IPG-immobilized pH gradient) strips for isoelectric focusing (pH 3-10, Bio-Rad).  
131 To soak the gel present on the strips with the protein sample, the strips were removed after a  
132 12-hour rehydration period and then subjected to the first electrophoresis dimension (IEF-100  
133 Hoefer; 250 V/30 min; 10 000 V/3 hrs; 60 kV/hr, with a current limit of 50 µA/strip hrs).  
134 Under the influence of the electric field, proteins contained in the strips were subjected to  
135 migration by siting in a location corresponding to the isoelectric point of the given protein.  
136 After separation, the IPG strips were prepared for the second electrophoresis dimension to  
137 separate the proteins by molecular mass. Vertical electrophoretic separation utilized 12.5%  
138 polyacrylamide gels and the following current parameters: 600 V/30 mA/100 W in an  
139 electrophoretic chamber (PROTEAN® II xi, Bio-Rad). The obtained gels were subjected to a  
140 standard colouring procedure with silver in the presence of formaldehyde as a regulator. The  
141 protein spots were cut out of the gels, decolourised, reduced and alkylated using dithiothreitol  
142 and iodoacetamide [20]. Gel fragments containing proteins were subjected to digestion to  
143 obtain shorter peptide fragments. Trypsin digestion occurred in 50 mM ammonium  
144 bicarbonate buffer at 37°C for 12 hours (Promega, Trypsin Gold, Mass Spectrometry Grade,

145 Technical Bulletin) [21]. The obtained peptides were subsequently eluted from the gel with a  
146 water/acetonitrile/TFA solution (v:v 450:500:50). The extracted peptides were purified using  
147 C18 Zip-TIP pipette tips according to the manufacturer's instructions (Merck Chemicals,  
148 Billerica, MA, USA, PR 02358, Technical Note) and applied to the MTP AnchorChip 384  
149 plate (Bruker, Bremen, Germany).

150

### 151 *Mass spectrometry*

152 After the protein samples were dried on the MPT AnchorChip 384 plate, their surfaces  
153 were covered with a super-saturated solution of  $\alpha$ -cyano4-hydroxycinnamic acid (HCCA,  
154 Bruker), functioning as a matrix mediating the transmission of energy to the sample.  
155 Simultaneously, 0.5  $\mu$ l of a peptide standard was applied to the calibration fields (Peptide  
156 Calibration Standard II, Bruker), which were also covered with the matrix solution.  
157 Spectrometric analysis was performed using the Ultraflex extreme III MALDI TOF/TOF  
158 (Bruker), and flexControl 3.3 (Bruker) software was applied for mass spectra collection. The  
159 obtained peptides were subjected to mild ionization using the MALDI-TOF instrument in the  
160 linear mode within the 900-4000 Da mass scope in the reflectron mode. The obtained mass  
161 spectra were analysed with flexAnalysis 3.4 (Bruker) software as follows: smoothing  
162 (Savitsky-Golay method), baseline subtraction (Top Hat baseline algorithm), and peak  
163 geometry (Stanford Network Analysis Platform (SNAP) algorithm). All peaks with signal to  
164 noise ratios  $> 3$  were qualified for further analysis. Experimental data were analysed using the  
165 abovementioned software to exclude peaks originating from trypsin or environmental  
166 pollution. To ensure correct identification, selecting possible post-translation modifications  
167 using BioTools 3.2 (Bruker) software was essential. Post-translation modifications were  
168 derived from both the methodology used as well as the metabolic processes of the patients.  
169 The obtained spectra were compared to the Swiss-Prot database restricted to "bony

170 vertebrate” taxa using Mascot 2.2 software with a maximum error of 0.3 Da. If the obtained  
171 result was not statistically significant, the original peptide ions were subjected to  
172 fragmentation in the tandem spectrometry mode [22,23].

173

## 174 **Results**

175         Based on the clinicopathological variables all dogs with babesiosis met the criteria for  
176 early phase of AKI. They had proteinuria with UPC>0.5, decreased urine specific gravity  
177 amounted to 1.015 on average and significantly elevated value of uIgG/uCr, uTHP/uCr, and  
178 uRBP/uCr that indicated glomerular and tubular damage.

179         In this study, 176 proteins were identified in pooled urine samples collected from  
180 healthy dogs, and 403 proteins were identified in pooled urine samples collected from dogs  
181 with babesiosis. Tables 1 and 2 contain lists of the proteins, along with their names, scores,  
182 molecular weights, number of matches, UniProt base accession numbers and hyperlinks. With  
183 the Venna programme (<http://bioinfo.gcnb.csic.es>), 146 of the 176 proteins were assigned  
184 exclusively to healthy dogs, and 373 of the 403 proteins were exclusively assigned to dogs  
185 with babesiosis; 30 proteins were common to both groups (Fig. 1). To further evaluate the 373  
186 proteins found in only the dogs with babesiosis, the Panther programme  
187 (<http://www.pantherdb.org>) was used to isolate 21 proteins from the *Canis familiaris* species,  
188 which were used to form a collection of potential diagnostic and pathophysiological  
189 biomarkers for this disease (Table 3). Further analysis of these 21 proteins led to the isolation  
190 of 8 proteins associated with 10 metabolic pathways that were attributed to immune and  
191 inflammatory response development (Table 4). These results showed that the epithelial-  
192 mesenchymal transition (EMT) might play an important role in the mechanisms underlying  
193 pathological changes in renal tissues during the course of babesiosis, as indicated by the  
194 causal relationship network built by combining 5 of the 10 selected metabolic pathways and 4



195 of the 8 proteins for which the pathways were associated. These included cadherins,  
196 gonadotropin releasing hormone receptors, inflammatory responses mediated by chemokine  
197 and cytokine signalling pathways, integrins, and TGF- $\beta$  pathways. These pathways were  
198 linked by interleukin (IL)-13, bone morphogenetic protein 7,  $\alpha$ 2(1) collagen, and FER  
199 tyrosine kinase.

200

## 201 **Discussion**

202 Non-specific immune responses are activated to limit the initial phase of parasitic  
203 invasion or infection by pathogenic micro-organisms. Parasitic invasion initiates type Th2  
204 immune responses, characterised by the activation of Th2 lymphocytes, eosinophilia,  
205 basophilia, mast cells, and alternatively, activated macrophages (AAM). This process is  
206 accompanied by the secretion of IgE antibodies and numerous cytokines, such as IL-3, IL-4,  
207 IL-5, IL-9 IL-10, IL-13 and TGF- $\beta$ . IL-13 plays a key role in regulating the anti-parasitic  
208 response [24], and is a primary factor inducing fibrosis processes in many chronic contagious  
209 and autoimmune diseases [25]. IL-13 increases the concentration of TGF- $\beta$ , which leads to  
210 collagen deposition in lung and kidney tissues [26], by stimulating macrophages to produce  
211 TGF- $\beta$  via the IL-13R $\alpha$ 2 receptor. Inhibition of IL-13R $\alpha$ 2 expression reduces TGF- $\beta$   
212 secretion and decreases collagen deposition in the tissues. Therefore, IL-13R $\alpha$ 2 is considered  
213 a feasible target molecule for therapies aimed at preventing fibrosis processes involving TGF-  
214  $\beta$  [27,28]. Fibrosis is considered the final stage in the development of CKD regardless of the  
215 primary cause, and the effector cells of this process include myofibroblasts developed from  
216 tubule epithelial cells transformed during the EMT process [29,30]. During this transition,  
217 cells lose polarity, loosening their communication abilities and degrading the basement  
218 membrane. Adhesive molecules that bond both epithelial cells and the basement membrane,  
219 such as E-cadherin and integrins, are replaced by mesenchymal cell markers, such as N-

220 cadherin, unstriated muscle  $\alpha$ -actin, vimentin, fibronectin and collagen I. In an inflammatory  
221 environment, the EMT maintains tissue homeostasis by inducing structural regeneration and  
222 reconstruction after harmful stress. Extinction of the inflammatory reaction results in  
223 termination of the EMT and a return to the original state. Long-term support of the EMT  
224 process leads to fibrous degeneration as well as structural and functional tissue and organ  
225 disorders [31,32]. Pleiotropic TGF- $\beta$  molecules and bone morphogenetic proteins (BMPs),  
226 belonging to the transforming growth factor- $\beta$  (TGF- $\beta$ SF) superfamily, participate in one of  
227 the most well-known signalling pathways in the EMT process [33–35]. TGF- $\beta$  plays a  
228 significant role in kidney diseases by functioning in fibrosis, inflammatory responses,  
229 apoptosis, and cell growth and diversification. Increased TGF- $\beta$  levels lead to loss of the  
230 epithelial phenotype, acquisition of the mesenchymal phenotype and collagen accumulation.  
231 On the other hand, BMP-7 inhibits fibrosis, exerts anti-inflammatory effects and stimulates  
232 the regeneration of damaged kidney tissues. During ontogeny, BMP-7 has a decisive impact  
233 on the number of nephrons and the size of the organ [36]. Serine-threonine kinase receptors  
234 and cytoplasmic proteins (Smads) participate in transferring TGF- $\beta$ /BMP pathway signals. By  
235 bonding with its T $\beta$ RII receptor on the cell surface, TGF- $\beta$  activates the T $\beta$ RI receptor, which  
236 passes the signal via the phosphorylation of Smad2 and Smad3. Similarly, BMP-7 bonds its  
237 surface receptors BAMPRI and BAMPRII and phosphorylates the Smad proteins 1, 5, and 8.  
238 The phosphorylated proteins (Smads) complex with the Smad4 protein, which permeates the  
239 kernel and induces the transcription of effector genes. Smad3, induced by TGF- $\beta$  stimulation,  
240 can combine with the Col1A2 gene promoter to activate the expression of type 1 $\alpha$ 2 collagen,  
241 which may accumulate in interstitial tissue and contribute to extracellular matrix (ECM)  
242 accumulation, leading to fibrous degeneration of the organ. Alternatively, TGF- $\beta$  and BMP-7  
243 expression can be controlled by extracellular signal-regulated kinases (ERKs) or mitogen-  
244 activated protein kinases (MAPKs) [37]. In experimental systems, BMP-7 recombinant

245 protein expression or BMP-7 overexpression inhibits fibrosis during diabetic nephropathy or  
246 AKI, TGF- $\beta$ -initiated EMT and E-cadherin suppression. BMP-7 manifests as a protective  
247 agent against kidney diseases by exerting an anti-inflammatory effect, reflected by the  
248 inhibition of neutrophil, monocyte and macrophage infiltration and activity as well as by  
249 repression of the expression of the proinflammatory cytokines IL-6 and IL-1 $\beta$  and the  
250 proinflammatory chemokines MCP1 and IL-8 [38]. BMP-7 showed anti-apoptotic activity in  
251 experiments on tubular epithelial cell (TEC) lines. The presence of  $\alpha$ -1 antitrypsin abolishes  
252 the TGF- $\beta$ /Smad3 signalling pathway and inhibits fibrosis, which indicates its therapeutic  
253 potential [39]. The BMP-7 mRNA expression in kidney biopsies of dogs with innate portal-  
254 collateral fusion was higher than that in healthy dogs. Attempts are being made to establish  
255 the causality between increased BMP-7 expression and kidney disturbances accompanying  
256 this disease, manifesting as kidney enlargement, increased glomerular filtration, polyuria and  
257 polydipsia. After pathological vessels are surgically corrected, it is important that the kidneys  
258 return to normal functioning, and the properties of BMP-7 associated with fibrosis inhibition,  
259 apoptosis and anti-inflammatory effects may be useful for accomplishing this goal, aiding in  
260 the conservative treatment of this disease [40]. Among the current concepts involving the  
261 therapeutic use of BMP-7 in kidney diseases, attention is drawn to the widespread BMP-7  
262 receptors in various organs and the risks of side effects. Therefore, antagonists that selectively  
263 stimulate receptors associated with renal tissues are sought, and those that are present in bone  
264 tissues, for example, must be omitted[37].

265

## 266 **Conclusion**

267 In summary, to the best of our knowledge, this is the first study to comprehensively  
268 analyse the urinary proteome of dogs with babesiosis, demonstrating the association of the  
269 identified proteins with the disease and indirectly confirming the occurrence of Th2 immune

270 responses to *Babesia canis* infection. Urine Interleukin-13, bone morphogenetic protein 7,  
271  $\alpha 2(1)$  collagen and FER tyrosine kinase are potential biomarkers of kidney damage during  
272 babesiosis in dogs that might be assigned to early renal injury; however, verifying their  
273 significance in the diagnosis and prognosis of the disease requires further study.

274

#### 275 **Declarations of interest**

276 The authors have declared that no competing interests exist.

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286 None to declare

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395

## 396 **Tables**

### 397 **Table 1**



398 Peptides identified in the urine of healthy dogs.

399

Protein name	Score	Mass	Matches	Access no.	Hyperlink
Endophilin-A2	<b>64</b>	41.7	9	<b>Q2KJA1</b>	<a href="http://www.uniprot.org/uniprot/Q2KJA1">http://www.uniprot.org/uniprot/Q2KJA1</a>
BTB/POZ domain-containing protein KCTD1	<b>66</b>	29.7	7	<b>Q719H9</b>	<a href="http://www.uniprot.org/uniprot/Q719H9">http://www.uniprot.org/uniprot/Q719H9</a>
Prolyl 3-hydroxylase 3	<b>52</b>	82.6	11	<b>Q8IVL6</b>	<a href="http://www.uniprot.org/uniprot/Q8IVL6">http://www.uniprot.org/uniprot/Q8IVL6</a>
Essential MCU regulator	<b>54</b>	11.5	4	<b>Q2M2S2</b>	<a href="http://www.uniprot.org/uniprot/Q2M2S2">http://www.uniprot.org/uniprot/Q2M2S2</a>
C-X-C motif chemokine 3	<b>43</b>	11.3	4	<b>Q10746</b>	<a href="http://www.uniprot.org/uniprot/Q10746">http://www.uniprot.org/uniprot/Q10746</a>
Desmin	<b>65</b>	53.3	10	<b>Q5XFN2</b>	<a href="http://www.uniprot.org/uniprot/Q5XFN2">http://www.uniprot.org/uniprot/Q5XFN2</a>
Uromodulin	<b>65</b>	72.9	13	<b>Q862Z3</b>	<a href="http://www.uniprot.org/uniprot/Q862Z3">http://www.uniprot.org/uniprot/Q862Z3</a>
Heat shock factor-binding protein 1	<b>51</b>	8.5	4	<b>O75506</b>	<a href="http://www.uniprot.org/uniprot/O75506">http://www.uniprot.org/uniprot/O75506</a>
Phosphoglucomutase-2	<b>45</b>	69.9	11	<b>Q7TSV4</b>	<a href="http://www.uniprot.org/uniprot/Q7TSV4">http://www.uniprot.org/uniprot/Q7TSV4</a>
Methylmalonyl-CoA mutase, mitochondrial	<b>50</b>	83.6	12	<b>Q9GK13</b>	<a href="http://www.uniprot.org/uniprot/Q9GK13">http://www.uniprot.org/uniprot/Q9GK13</a>
Histone H1t	<b>51</b>	22.1	6	<b>P40286</b>	<a href="http://www.uniprot.org/uniprot/P40286">http://www.uniprot.org/uniprot/P40286</a>
General transcription factor II-I	<b>50</b>	110.6	8	<b>A7MB80</b>	<a href="http://www.uniprot.org/uniprot/A7MB80">http://www.uniprot.org/uniprot/A7MB80</a>
Zinc finger protein 106	<b>68</b>	210.8	19	<b>O88466</b>	<a href="http://www.uniprot.org/uniprot/O88466">http://www.uniprot.org/uniprot/O88466</a>
Protein CutA	<b>76</b>	19.2	6	<b>O60888</b>	<a href="http://www.uniprot.org/uniprot/O60888">http://www.uniprot.org/uniprot/O60888</a>
Protein Lines homolog 1	<b>58</b>	87.5	11	<b>Q8NG48</b>	<a href="http://www.uniprot.org/uniprot/Q8NG48">http://www.uniprot.org/uniprot/Q8NG48</a>
Dihydropyrimidinase-related protein 1	<b>48</b>	62.5	9	<b>Q14194</b>	<a href="http://www.uniprot.org/uniprot/Q14194">http://www.uniprot.org/uniprot/Q14194</a>
Interleukin-22	<b>43</b>	20.3	4	<b>Q9GZX6</b>	<a href="http://www.uniprot.org/uniprot/Q9GZX6">http://www.uniprot.org/uniprot/Q9GZX6</a>
BTB/POZ domain-containing protein KCTD1	<b>46</b>	29.7	4	<b>Q719H9</b>	<a href="http://www.uniprot.org/uniprot/Q719H9">http://www.uniprot.org/uniprot/Q719H9</a>
Ribosome-binding protein 1	<b>48</b>	164.8	9	<b>Q28298</b>	<a href="http://www.uniprot.org/uniprot/Q28298">http://www.uniprot.org/uniprot/Q28298</a>
Glycogen debranching enzyme	<b>43</b>	176.9	12	<b>Q2PQH8</b>	<a href="http://www.uniprot.org/uniprot/Q2PQH8">http://www.uniprot.org/uniprot/Q2PQH8</a>
6-phosphofructo-2-kinase/fructose-2,6-bisphosphatase 3	<b>67</b>	54.2	9	<b>Q28901</b>	<a href="http://www.uniprot.org/uniprot/Q28901">http://www.uniprot.org/uniprot/Q28901</a>
60S ribosomal protein L37	<b>58</b>	11.3	8	<b>P79244</b>	<a href="http://www.uniprot.org/uniprot/P79244">http://www.uniprot.org/uniprot/P79244</a>
Interleukin-11	<b>46</b>	21.6	6	<b>P47873</b>	<a href="http://www.uniprot.org/uniprot/P47873">http://www.uniprot.org/uniprot/P47873</a>
Vascular cell adhesion protein 1	<b>63</b>	82.3	13	<b>P19320</b>	<a href="http://www.uniprot.org/uniprot/P19320">http://www.uniprot.org/uniprot/P19320</a>
Ig heavy chain V region AC38 205.12	<b>66</b>	13	4	<b>P06330</b>	<a href="http://www.uniprot.org/uniprot/P06330">http://www.uniprot.org/uniprot/P06330</a>
Collagen alpha-1(XXV) chain	<b>88</b>	65.1	13	<b>Q9BXS0</b>	<a href="http://www.uniprot.org/uniprot/Q9BXS0">http://www.uniprot.org/uniprot/Q9BXS0</a>
Sphingosine 1-phosphate receptor 3	<b>51</b>	43	8	<b>Q99500</b>	<a href="http://www.uniprot.org/uniprot/Q99500">http://www.uniprot.org/uniprot/Q99500</a>
Vascular cell adhesion protein 1	<b>51</b>	82.3	11	<b>P19320</b>	<a href="http://www.uniprot.org/uniprot/P19320">http://www.uniprot.org/uniprot/P19320</a>
Vacuolar protein sorting-associated protein 4B	<b>41</b>	49.6	6	<b>P46467</b>	<a href="http://www.uniprot.org/uniprot/P46467">http://www.uniprot.org/uniprot/P46467</a>
SPRY domain-containing protein 7	<b>51</b>	22.2	5	<b>Q2T9X3</b>	<a href="http://www.uniprot.org/uniprot/Q2T9X3">http://www.uniprot.org/uniprot/Q2T9X3</a>



Myoglobin	<b>48</b>	17.3	7	<b>P02185</b>	<a href="http://www.uniprot.org/uniprot/P02185">http://www.uniprot.org/uniprot/P02185</a>
Retinol-binding protein 2	<b>43</b>	15.8	5	<b>Q08652</b>	<a href="http://www.uniprot.org/uniprot/Q08652">http://www.uniprot.org/uniprot/Q08652</a>
Mesenteric estrogen-dependent adipogenesis protein	<b>53</b>	34.6	6	<b>A41FN2</b>	<a href="http://www.uniprot.org/uniprot/A41FN2">http://www.uniprot.org/uniprot/A41FN2</a>
NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 10, mitochondrial	<b>49</b>	40.9	6	<b>Q0MQB6</b>	<a href="http://www.uniprot.org/uniprot/Q0MQB6">http://www.uniprot.org/uniprot/Q0MQB6</a>
Nucleoside diphosphate kinase A	<b>51</b>	17.3	5	<b>Q05982</b>	<a href="http://www.uniprot.org/uniprot/Q05982">http://www.uniprot.org/uniprot/Q05982</a>
PR domain zinc finger protein 12	<b>49</b>	40.7	6	<b>A2AJ77</b>	<a href="http://www.uniprot.org/uniprot/A2AJ77">http://www.uniprot.org/uniprot/A2AJ77</a>
Gastric inhibitory polypeptide receptor	<b>53</b>	54	8	<b>P48546</b>	<a href="http://www.uniprot.org/uniprot/P48546">http://www.uniprot.org/uniprot/P48546</a>
Carbohydrate sulfotransferase 1	<b>54</b>	47.5	9	<b>Q9EQC0</b>	<a href="http://www.uniprot.org/uniprot/Q9EQC0">http://www.uniprot.org/uniprot/Q9EQC0</a>
Ras-specific guanine nucleotide-releasing factor 1	<b>50</b>	146.3	13	<b>Q13972</b>	<a href="http://www.uniprot.org/uniprot/Q13972">http://www.uniprot.org/uniprot/Q13972</a>
Coiled-coil domain-containing protein 184	<b>39</b>	20.7	3	<b>Q52MB2</b>	<a href="http://www.uniprot.org/uniprot/Q52MB2">http://www.uniprot.org/uniprot/Q52MB2</a>
NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 4-like 2	<b>42</b>	10.1	3	<b>Q9NRX3</b>	<a href="http://www.uniprot.org/uniprot/Q9NRX3">http://www.uniprot.org/uniprot/Q9NRX3</a>
Elongation factor 1-beta	<b>59</b>	25	7	<b>Q5E983</b>	<a href="http://www.uniprot.org/uniprot/Q5E983">http://www.uniprot.org/uniprot/Q5E983</a>
Uncharacterized protein C12orf60 homolog	<b>52</b>	28.3	10	<b>Q810N5</b>	<a href="http://www.uniprot.org/uniprot/Q810N5">http://www.uniprot.org/uniprot/Q810N5</a>
Serum albumin	<b>44</b>	70.6	10	<b>P49822</b>	<a href="http://www.uniprot.org/uniprot/P49822">http://www.uniprot.org/uniprot/P49822</a>
DNA-binding protein RFX5	<b>52</b>	65.7	11	<b>P48382</b>	<a href="http://www.uniprot.org/uniprot/P48382">http://www.uniprot.org/uniprot/P48382</a>
C2 domain-containing protein 3	<b>50</b>	262.6	15	<b>Q4AC94</b>	<a href="http://www.uniprot.org/uniprot/Q4AC94">http://www.uniprot.org/uniprot/Q4AC94</a>
Protein deglycase DJ-1	<b>55</b>	20.1	6	<b>Q95L19</b>	<a href="http://www.uniprot.org/uniprot/Q95L19">http://www.uniprot.org/uniprot/Q95L19</a>
Calmodulin-regulated spectrin-associated protein 1	<b>54</b>	179.9	12	<b>D3Z8E6</b>	<a href="http://www.uniprot.org/uniprot/D3Z8E6">http://www.uniprot.org/uniprot/D3Z8E6</a>
Zinc finger protein 101	<b>49</b>	51.9	7	<b>Q8IZC7</b>	<a href="http://www.uniprot.org/uniprot/Q8IZC7">http://www.uniprot.org/uniprot/Q8IZC7</a>
Mini-chromosome maintenance complex-binding protein	<b>51</b>	73.8	7	<b>Q9BTE3</b>	<a href="http://www.uniprot.org/uniprot/Q9BTE3">http://www.uniprot.org/uniprot/Q9BTE3</a>
Protein SOX-16 (fragment)	<b>46</b>	6.9	5	<b>Q62247</b>	<a href="http://www.uniprot.org/uniprot/Q62247">http://www.uniprot.org/uniprot/Q62247</a>
Essential MCU regulator, mitochondrial	<b>45</b>	11.5	4	<b>Q2M2S2</b>	<a href="http://www.uniprot.org/uniprot/Q2M2S2">http://www.uniprot.org/uniprot/Q2M2S2</a>
G protein-coupled receptor kinase 7	<b>52</b>	62.6	7	<b>Q9Z2G7</b>	<a href="http://www.uniprot.org/uniprot/Q9Z2G7">http://www.uniprot.org/uniprot/Q9Z2G7</a>
Golgi SNAP receptor complex member 1	<b>49</b>	28.6	11	<b>Q2TBU3</b>	<a href="http://www.uniprot.org/uniprot/Q2TBU3">http://www.uniprot.org/uniprot/Q2TBU3</a>
Metaxin-2	<b>52</b>	30.1	5	<b>O88441</b>	<a href="http://www.uniprot.org/uniprot/O88441">http://www.uniprot.org/uniprot/O88441</a>
Glutathione S-transferase Mu 1	<b>52</b>	26.1	7	<b>P10649</b>	<a href="http://www.uniprot.org/uniprot/P10649">http://www.uniprot.org/uniprot/P10649</a>
Calpain-2 catalytic subunit	<b>58</b>	80.7	9	<b>Q27971</b>	<a href="http://www.uniprot.org/uniprot/Q27971">http://www.uniprot.org/uniprot/Q27971</a>
Pleckstrin homology domain-containing family G member 4B	<b>56</b>	141.6	15	<b>Q96PX9</b>	<a href="http://www.uniprot.org/uniprot/Q96PX9">http://www.uniprot.org/uniprot/Q96PX9</a>
Profilin-4	<b>52</b>	14.6	6	<b>Q9D6I3</b>	<a href="http://www.uniprot.org/uniprot/Q9D6I3">http://www.uniprot.org/uniprot/Q9D6I3</a>
EH domain-containing protein 4	<b>52</b>	61.4	12	<b>Q9H223</b>	<a href="http://www.uniprot.org/uniprot/Q9H223">http://www.uniprot.org/uniprot/Q9H223</a>

Hepcidin	<b>59</b>	9.3	5	<b>Q8MJ80</b>	<a href="http://www.uniprot.org/uniprot/Q8MJ80">http://www.uniprot.org/uniprot/Q8MJ80</a>
Glycine receptor subunit beta	<b>52</b>	56.8	7	<b>P48167</b>	<a href="http://www.uniprot.org/uniprot/P48167">http://www.uniprot.org/uniprot/P48167</a>
Sulfotransferase 4A1	<b>51</b>	33.4	8	<b>P63046</b>	<a href="http://www.uniprot.org/uniprot/P63046">http://www.uniprot.org/uniprot/P63046</a>
Unconventional myosin-Id	<b>59</b>	116.9	10	<b>O94832</b>	<a href="http://www.uniprot.org/uniprot/O94832">http://www.uniprot.org/uniprot/O94832</a>
Actin-related protein 2/3 complex subunit 3	<b>48</b>	20.8	6	<b>Q3T035</b>	<a href="http://www.uniprot.org/uniprot/Q3T035">http://www.uniprot.org/uniprot/Q3T035</a>
Actin-related protein 2/3 complex subunit 3	<b>48</b>	20.8	6	<b>Q3T035</b>	<a href="http://www.uniprot.org/uniprot/Q3T035">http://www.uniprot.org/uniprot/Q3T035</a>
Autophagy-related protein 16-1	<b>49</b>	68.9	7	<b>Q676U5</b>	<a href="http://www.uniprot.org/uniprot/Q676U5">http://www.uniprot.org/uniprot/Q676U5</a>
Carbonic anhydrase 5B, mitochondrial	<b>61</b>	36.8	5	<b>Q9Y2D0</b>	<a href="http://www.uniprot.org/uniprot/Q9Y2D0">http://www.uniprot.org/uniprot/Q9Y2D0</a>
Putative olfactory receptor 2B3	<b>50</b>	36.2	4	<b>O76000</b>	<a href="http://www.uniprot.org/uniprot/O76000">http://www.uniprot.org/uniprot/O76000</a>
Zinc finger protein 75D	<b>51</b>	60.2	10	<b>P51815</b>	<a href="http://www.uniprot.org/uniprot/P51815">http://www.uniprot.org/uniprot/P51815</a>
Trafficking protein particle complex subunit 1	<b>57</b>	16.9	6	<b>Q17QI1</b>	<a href="http://www.uniprot.org/uniprot/Q17QI1">http://www.uniprot.org/uniprot/Q17QI1</a>
Golgi SNAP receptor complex member 1	<b>52</b>	28.6	9	<b>Q2TBU3</b>	<a href="http://www.uniprot.org/uniprot/Q2TBU3">http://www.uniprot.org/uniprot/Q2TBU3</a>
Zinc finger protein 491	<b>50</b>	52.9	9	<b>Q8N8L2</b>	<a href="http://www.uniprot.org/uniprot/Q8N8L2">http://www.uniprot.org/uniprot/Q8N8L2</a>
Cytoskeleton-associated protein 2-like	<b>61</b>	83.4	12	<b>A5PK21</b>	<a href="http://www.uniprot.org/uniprot/A5PK21">http://www.uniprot.org/uniprot/A5PK21</a>
Retinoic acid receptor RXR-beta (Fragment)	<b>52</b>	49.8	9	<b>P49743</b>	<a href="http://www.uniprot.org/uniprot/P49743">http://www.uniprot.org/uniprot/P49743</a>
Apolipoprotein A-II	<b>54</b>	11.3	4	<b>E2RAK7</b>	<a href="http://www.uniprot.org/uniprot/E2RAK7">http://www.uniprot.org/uniprot/E2RAK7</a>
Tubulin polymerization-promoting protein family member 2	<b>50</b>	18.5	6	<b>Q4R3A0</b>	<a href="http://www.uniprot.org/uniprot/Q4R3A0">http://www.uniprot.org/uniprot/Q4R3A0</a>
Bcl-2-like protein 2	<b>49</b>	20.9	6	<b>Q1RMX3</b>	<a href="http://www.uniprot.org/uniprot/Q1RMX3">http://www.uniprot.org/uniprot/Q1RMX3</a>
Mini-chromosome maintenance complex-binding protein	<b>52</b>	73.8	16	<b>A5PJM5</b>	<a href="http://www.uniprot.org/uniprot/A5PJM5">http://www.uniprot.org/uniprot/A5PJM5</a>
Alpha-2,8-sialyltransferase 8F	<b>55</b>	45.4	8	<b>P61647</b>	<a href="http://www.uniprot.org/uniprot/P61647">http://www.uniprot.org/uniprot/P61647</a>
H-2 class I histocompatibility antigen, K-B alpha chain	<b>62</b>	41.7	11	<b>P01901</b>	<a href="http://www.uniprot.org/uniprot/P01901">http://www.uniprot.org/uniprot/P01901</a>
Fibroleukin	<b>53</b>	50.8	9	<b>Q14314</b>	<a href="http://www.uniprot.org/uniprot/Q14314">http://www.uniprot.org/uniprot/Q14314</a>
Phosphatidylethanolamine-binding protein 2	<b>52</b>	21.7	6	<b>Q8VIN1</b>	<a href="http://www.uniprot.org/uniprot/Q8VIN1">http://www.uniprot.org/uniprot/Q8VIN1</a>
Zinc finger and SCAN domain-containing protein 5A	<b>63</b>	56.9	8	<b>Q9BUG6</b>	<a href="http://www.uniprot.org/uniprot/Q9BUG6">http://www.uniprot.org/uniprot/Q9BUG6</a>
Fructose-1,6-bisphosphatase 1	<b>54</b>	37	5	<b>Q3SZB7</b>	<a href="http://www.uniprot.org/uniprot/Q3SZB7">http://www.uniprot.org/uniprot/Q3SZB7</a>
Beta-defensin 107A	<b>51</b>	7.9	3	<b>A4H217</b>	<a href="http://www.uniprot.org/uniprot/A4H217">http://www.uniprot.org/uniprot/A4H217</a>
Golgi SNAP receptor complex member 1	<b>62</b>	28.6	10	<b>Q62931</b>	<a href="http://www.uniprot.org/uniprot/Q62931">http://www.uniprot.org/uniprot/Q62931</a>
Zinc finger protein 624	<b>63</b>	102.5	13	<b>Q9P2J8</b>	<a href="http://www.uniprot.org/uniprot/Q9P2J8">http://www.uniprot.org/uniprot/Q9P2J8</a>
Prelamin-A/C	<b>62</b>	74.6	12	<b>P48679</b>	<a href="http://www.uniprot.org/uniprot/P48679">http://www.uniprot.org/uniprot/P48679</a>
Aspartate-tRNA ligase, cytoplasmic	<b>51</b>	57.5	18	<b>P15178</b>	<a href="http://www.uniprot.org/uniprot/P15178">http://www.uniprot.org/uniprot/P15178</a>
Beta-lactoglobulin	<b>69</b>	20.6	6	<b>Q29146</b>	<a href="http://www.uniprot.org/uniprot/Q29146">http://www.uniprot.org/uniprot/Q29146</a>
ATP synthase subunit alpha, mitochondrial	<b>63</b>	59.8	16	<b>P25705</b>	<a href="http://www.uniprot.org/uniprot/P25705">http://www.uniprot.org/uniprot/P25705</a>
RUN and FYVE domain-containing protein 2	<b>55</b>	70.8	18	<b>Q8R4C2</b>	<a href="http://www.uniprot.org/uniprot/Q8R4C2">http://www.uniprot.org/uniprot/Q8R4C2</a>

Pyridine nucleotide-disulfide oxidoreductase domain-containing protein 2	<b>57</b>	63.5	10	<b>Q3U4I7</b>	<a href="http://www.uniprot.org/uniprot/Q3U4I7">http://www.uniprot.org/uniprot/Q3U4I7</a>
Profilin-3	<b>51</b>	15	7	<b>Q8R4C2</b>	<a href="http://www.uniprot.org/uniprot/Q9DAD6">http://www.uniprot.org/uniprot/Q9DAD6</a>
Prolyl 3-hydroxylase 3	<b>62</b>	82.6	10	<b>Q8IVL6</b>	<a href="http://www.uniprot.org/uniprot/Q8IVL6">http://www.uniprot.org/uniprot/Q8IVL6</a>
Tumor susceptibility gene 101 protein	<b>56</b>	44.1	7	<b>Q99816</b>	<a href="http://www.uniprot.org/uniprot/Q99816">http://www.uniprot.org/uniprot/Q99816</a>
Vascular cell adhesion protein 1	<b>51</b>	82.4	10	<b>P29533</b>	<a href="http://www.uniprot.org/uniprot/P29533">http://www.uniprot.org/uniprot/P29533</a>
Ataxin-7	<b>53</b>	93.8	8	<b>Q8R4I1</b>	<a href="http://www.uniprot.org/uniprot/Q8R4I1">http://www.uniprot.org/uniprot/Q8R4I1</a>
Gamma-aminobutyric acid receptor subunit alpha-1	<b>53</b>	52.1	6	<b>P08219</b>	<a href="http://www.uniprot.org/uniprot/P08219">http://www.uniprot.org/uniprot/P08219</a>
43 kDa receptor-associated protein of the synapse	<b>63</b>	47.6	10	<b>P12672</b>	<a href="http://www.uniprot.org/uniprot/P12672">http://www.uniprot.org/uniprot/P12672</a>
Protein-arginine deiminase type-2	<b>57</b>	76	9	<b>P20717</b>	<a href="http://www.uniprot.org/uniprot/P20717">http://www.uniprot.org/uniprot/P20717</a>
Heat shock factor-binding protein 1	<b>53</b>	8.6	6	<b>Q9CQZ1</b>	<a href="http://www.uniprot.org/uniprot/Q9CQZ1">http://www.uniprot.org/uniprot/Q9CQZ1</a>
Non-homologous end-joining factor 1	<b>55</b>	34.1	7	<b>Q6AYI4</b>	<a href="http://www.uniprot.org/uniprot/Q6AYI4">http://www.uniprot.org/uniprot/Q6AYI4</a>
Microtubule-associated protein RP/EB family member 1	<b>51</b>	30.1	10	<b>Q5R7Z5</b>	<a href="http://www.uniprot.org/uniprot/Q5R7Z5">http://www.uniprot.org/uniprot/Q5R7Z5</a>
Protein kish-A	<b>56</b>	8.4	6	<b>Q9CR64</b>	<a href="http://www.uniprot.org/uniprot/Q9CR64">http://www.uniprot.org/uniprot/Q9CR64</a>
Ubiquitin carboxyl-terminal hydrolase 14	<b>56</b>	56.3	9	<b>P40826</b>	<a href="http://www.uniprot.org/uniprot/P40826">http://www.uniprot.org/uniprot/P40826</a>
Cap-specific mRNA (nucleoside-2'-O-)-methyltransferase 1	<b>64</b>	96.6	12	<b>Q9DBC3</b>	<a href="http://www.uniprot.org/uniprot/Q9DBC3">http://www.uniprot.org/uniprot/Q9DBC3</a>
DNA dC->dU-editing enzyme APOBEC-3G	<b>65</b>	45.9	8	<b>Q694B9</b>	<a href="http://www.uniprot.org/uniprot/Q694B9">http://www.uniprot.org/uniprot/Q694B9</a>
Annexin A10	<b>63</b>	37.8	8	<b>Q9UJ72</b>	<a href="http://www.uniprot.org/uniprot/Q9UJ72">http://www.uniprot.org/uniprot/Q9UJ72</a>
Cysteine and glycine-rich protein 2	<b>57</b>	21.8	6	<b>P97314</b>	<a href="http://www.uniprot.org/uniprot/P97314">http://www.uniprot.org/uniprot/P97314</a>
Calmodulin-regulated spectrin-associated protein 1	<b>50</b>	179.9	15	<b>D3Z8E6</b>	<a href="http://www.uniprot.org/uniprot/D3Z8E6">http://www.uniprot.org/uniprot/D3Z8E6</a>
Tyrosine-protein phosphatase non-receptor type 12	<b>58</b>	87.2	7	<b>P35831</b>	<a href="http://www.uniprot.org/uniprot/P35831">http://www.uniprot.org/uniprot/P35831</a>
Dual specificity phosphatase DUPD1	<b>55</b>	24.3	6	<b>P0C595</b>	<a href="http://www.uniprot.org/uniprot/P0C595">http://www.uniprot.org/uniprot/P0C595</a>
Protein cereblon	<b>53</b>	50.1	10	<b>Q5R6Y2</b>	<a href="http://www.uniprot.org/uniprot/Q5R6Y2">http://www.uniprot.org/uniprot/Q5R6Y2</a>
Testis-expressed sequence 33 protein	<b>53</b>	30.8	5	<b>O43247</b>	<a href="http://www.uniprot.org/uniprot/O43247">http://www.uniprot.org/uniprot/O43247</a>
Complexin-3	<b>51</b>	17.6	7	<b>Q8WVH0</b>	<a href="http://www.uniprot.org/uniprot/Q8WVH0">http://www.uniprot.org/uniprot/Q8WVH0</a>
Plasmalemma vesicle-associated protein	<b>61</b>	50.6	12	<b>Q9WV78</b>	<a href="http://www.uniprot.org/uniprot/Q9WV78">http://www.uniprot.org/uniprot/Q9WV78</a>
Calcium/calmodulin-dependent protein kinase II inhibitor 1	<b>53</b>	8.6	4	<b>A7MBG3</b>	<a href="http://www.uniprot.org/uniprot/A7MBG3">http://www.uniprot.org/uniprot/A7MBG3</a>
BTB/POZ domain-containing protein KCTD1	<b>56</b>	29.7	6	<b>Q719H9</b>	<a href="http://www.uniprot.org/uniprot/Q719H9">http://www.uniprot.org/uniprot/Q719H9</a>
Threonine synthase-like 2	<b>62</b>	54.8	6	<b>Q86YJ6</b>	<a href="http://www.uniprot.org/uniprot/Q86YJ6">http://www.uniprot.org/uniprot/Q86YJ6</a>
Probable tRNA pseudouridine synthase 1	<b>65</b>	36.6	7	<b>Q5M934</b>	<a href="http://www.uniprot.org/uniprot/Q5M934">http://www.uniprot.org/uniprot/Q5M934</a>

Ras-related protein Rab-7a	<b>51</b>	23.8	8	<b>P51149</b>	<a href="http://www.uniprot.org/uniprot/P51149">http://www.uniprot.org/uniprot/P51149</a>
Essential MCU regulator, mitochondrial	<b>52</b>	11.5	4	<b>Q2M2S2</b>	<a href="http://www.uniprot.org/uniprot/Q2M2S2">http://www.uniprot.org/uniprot/Q2M2S2</a>
Golgi SNAP receptor complex member 1	<b>51</b>	28.6	5	<b>O88630</b>	<a href="http://www.uniprot.org/uniprot/O88630">http://www.uniprot.org/uniprot/O88630</a>
Dual specificity phosphatase DUPD1	<b>54</b>	25.5	8	<b>Q68J44</b>	<a href="http://www.uniprot.org/uniprot/Q68J44">http://www.uniprot.org/uniprot/Q68J44</a>
GTP-binding protein Rheb	<b>53</b>	20.5	5	<b>Q921J2</b>	<a href="http://www.uniprot.org/uniprot/Q921J2">http://www.uniprot.org/uniprot/Q921J2</a>
Radical S-adenosyl methionine domain-containing protein 2	<b>60</b>	42.4	10	<b>Q9MZU4</b>	<a href="http://www.uniprot.org/uniprot/Q9MZU4">http://www.uniprot.org/uniprot/Q9MZU4</a>
Zinc finger protein 624	<b>50</b>	102.5	11	<b>Q9P2J8</b>	<a href="http://www.uniprot.org/uniprot/Q9P2J8">http://www.uniprot.org/uniprot/Q9P2J8</a>
Neurofibromin	<b>56</b>	320.5	16	<b>P97526</b>	<a href="http://www.uniprot.org/uniprot/P97526">http://www.uniprot.org/uniprot/P97526</a>
Protein FAM184B	<b>54</b>	121.9	13	<b>Q9ULE4</b>	<a href="http://www.uniprot.org/uniprot/Q9ULE4">http://www.uniprot.org/uniprot/Q9ULE4</a>
Phosphomannomutase 2	<b>58</b>	28.4	6	<b>Q3SZJ9</b>	<a href="http://www.uniprot.org/uniprot/Q3SZJ9">http://www.uniprot.org/uniprot/Q3SZJ9</a>
Isocitrate dehydrogenase [NADP] cytoplasmic	<b>53</b>	47	6	<b>P41562</b>	<a href="http://www.uniprot.org/uniprot/P41562">http://www.uniprot.org/uniprot/P41562</a>
Beta-1,3-galactosyltransferase 4	<b>44</b>	42.9	7	<b>Q5TJE8</b>	<a href="http://www.uniprot.org/uniprot/Q5TJE8">http://www.uniprot.org/uniprot/Q5TJE8</a>
Transmembrane protein 238	<b>51</b>	18.1	4	<b>C9JI98</b>	<a href="http://www.uniprot.org/uniprot/C9JI98">http://www.uniprot.org/uniprot/C9JI98</a>
Protein FAM3C	<b>51</b>	25.0	7	<b>Q810F4</b>	<a href="http://www.uniprot.org/uniprot/Q810F4">http://www.uniprot.org/uniprot/Q810F4</a>
Coiled-coil domain-containing protein 136	<b>51</b>	133.7	9	<b>Q3TVA9</b>	<a href="http://www.uniprot.org/uniprot/Q3TVA9">http://www.uniprot.org/uniprot/Q3TVA9</a>
Protein KHNYN	<b>50</b>	75.1	9	<b>Q80U38</b>	<a href="http://www.uniprot.org/uniprot/Q80U38">http://www.uniprot.org/uniprot/Q80U38</a>
Retinol-binding protein 2	<b>50</b>	15.8	4	<b>Q08652</b>	<a href="http://www.uniprot.org/uniprot/Q08652">http://www.uniprot.org/uniprot/Q08652</a>
Tetratricopeptide repeat protein 36	<b>72</b>	20.7	7	<b>Q3SZV0</b>	<a href="http://www.uniprot.org/uniprot/Q3SZV0">http://www.uniprot.org/uniprot/Q3SZV0</a>
E3 ubiquitin-protein ligase RNF152	<b>62</b>	23.1	6	<b>D2H6Z0</b>	<a href="http://www.uniprot.org/uniprot/D2H6Z0">http://www.uniprot.org/uniprot/D2H6Z0</a>
Protein RCC2	<b>50</b>	56.8	10	<b>Q9P258</b>	<a href="http://www.uniprot.org/uniprot/Q9P258">http://www.uniprot.org/uniprot/Q9P258</a>
Signal peptidase complex subunit 2	<b>54</b>	25.3	6	<b>Q5RAY6</b>	<a href="http://www.uniprot.org/uniprot/Q5RAY6">http://www.uniprot.org/uniprot/Q5RAY6</a>
Protein myomaker	<b>50</b>	25.1	4	<b>A6NI61</b>	<a href="http://www.uniprot.org/uniprot/A6NI61">http://www.uniprot.org/uniprot/A6NI61</a>
Apoptosis-enhancing nuclease	<b>57</b>	37.6	9	<b>Q9CZI9</b>	<a href="http://www.uniprot.org/uniprot/Q9CZI9">http://www.uniprot.org/uniprot/Q9CZI9</a>
Short-chain specific acyl-CoA dehydrogenase, mitochondrial	<b>53</b>	44.6	9	<b>P16219</b>	<a href="http://www.uniprot.org/uniprot/P16219">http://www.uniprot.org/uniprot/P16219</a>
Fanconi anemia group B protein	<b>61</b>	99.4	12	<b>Q8NB91</b>	<a href="http://www.uniprot.org/uniprot/Q8NB91">http://www.uniprot.org/uniprot/Q8NB91</a>
Dual-specificity phosphatase 28	<b>70</b>	18.7	6	<b>Q4G0W2</b>	<a href="http://www.uniprot.org/uniprot/Q4G0W2">http://www.uniprot.org/uniprot/Q4G0W2</a>
Succinyl-CoA ligase [ADP-forming] subunit beta, mitochondrial	<b>65</b>	50.3	12	<b>Q4R517</b>	<a href="http://www.uniprot.org/uniprot/Q4R517">http://www.uniprot.org/uniprot/Q4R517</a>
Zinc finger and SCAN domain-containing protein 5A	<b>51</b>	56.9	9	<b>Q9BUG6</b>	<a href="http://www.uniprot.org/uniprot/Q9BUG6">http://www.uniprot.org/uniprot/Q9BUG6</a>
Eukaryotic translation initiation factor 4E-binding protein 1	<b>50</b>	12.7	5	<b>Q0P5A7</b>	<a href="http://www.uniprot.org/uniprot/Q0P5A7">http://www.uniprot.org/uniprot/Q0P5A7</a>
39S ribosomal protein L30, mitochondrial	<b>57</b>	18.7	6	<b>Q58DV5</b>	<a href="http://www.uniprot.org/uniprot/Q58DV5">http://www.uniprot.org/uniprot/Q58DV5</a>
WAP four-disulfide core domain protein 12	<b>57</b>	12.7	4	<b>A4K2P0</b>	<a href="http://www.uniprot.org/uniprot/A4K2P0">http://www.uniprot.org/uniprot/A4K2P0</a>
UV-stimulated scaffold	<b>55</b>	82.6	12	<b>Q9D479</b>	<a href="http://www.uniprot.org/uniprot/Q9D479">http://www.uniprot.org/uniprot/Q9D479</a>

protein A					
NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 12	<b>52</b>	17.1	4	<b>Q9UI09</b>	<a href="http://www.uniprot.org/uniprot/Q9UI09">http://www.uniprot.org/uniprot/Q9UI09</a>
Tektin-4	<b>59</b>	51.3	8	<b>Q8WW24</b>	<a href="http://www.uniprot.org/uniprot/Q8WW24">http://www.uniprot.org/uniprot/Q8WW24</a>
Heterochromatin protein 1-binding protein 3	<b>65</b>	61.5	12	<b>Q5SSJ5</b>	<a href="http://www.uniprot.org/uniprot/Q5SSJ5">http://www.uniprot.org/uniprot/Q5SSJ5</a>
Natriuretic peptides B	<b>37</b>	15.1	4	<b>P16859</b>	<a href="http://www.uniprot.org/uniprot/P16859">http://www.uniprot.org/uniprot/P16859</a>
Zinc finger protein 624	<b>59</b>	102.5	12	<b>Q9P2J8</b>	<a href="http://www.uniprot.org/uniprot/Q9P2J8">http://www.uniprot.org/uniprot/Q9P2J8</a>
G kinase-anchoring protein 1	<b>55</b>	42.2	5	<b>Q5XIG5</b>	<a href="http://www.uniprot.org/uniprot/Q5XIG5">http://www.uniprot.org/uniprot/Q5XIG5</a>
OTU domain-containing protein 6B	<b>59</b>	34	8	<b>Q8N6M0</b>	<a href="http://www.uniprot.org/uniprot/Q8N6M0">http://www.uniprot.org/uniprot/Q8N6M0</a>
Tetratricopeptide repeat protein 36	<b>64</b>	20.7	9	<b>Q3SZV0</b>	<a href="http://www.uniprot.org/uniprot/Q3SZV0">http://www.uniprot.org/uniprot/Q3SZV0</a>
Leucine-rich repeat and coiled-coil domain-containing protein 1	<b>61</b>	120.6	12	<b>Q69ZB0</b>	<a href="http://www.uniprot.org/uniprot/Q69ZB0">http://www.uniprot.org/uniprot/Q69ZB0</a>
Poly [ADP-ribose] polymerase 12	<b>61</b>	80.5	12	<b>Q9H0J9</b>	<a href="http://www.uniprot.org/uniprot/Q9H0J9">http://www.uniprot.org/uniprot/Q9H0J9</a>
Cortexin-2	<b>53</b>	9.1	6	<b>P0C2S0</b>	<a href="http://www.uniprot.org/uniprot/P0C2S0">http://www.uniprot.org/uniprot/P0C2S0</a>
Luc7-like protein 3	<b>51</b>	51.9	11	<b>Q3SX41</b>	<a href="http://www.uniprot.org/uniprot/Q3SX41">http://www.uniprot.org/uniprot/Q3SX41</a>
Putative uncharacterized protein encoded by CRHR1-IT1	<b>52</b>	17.2	9	<b>Q96LR1</b>	<a href="http://www.uniprot.org/uniprot/Q96LR1">http://www.uniprot.org/uniprot/Q96LR1</a>
DNA replication licensing factor MCM4	<b>56</b>	97.1	11	<b>P33991</b>	<a href="http://www.uniprot.org/uniprot/P33991">http://www.uniprot.org/uniprot/P33991</a>
Acyl-CoA synthetase family member 2, mitochondrial	<b>63</b>	69	9	<b>Q17QJ1</b>	<a href="http://www.uniprot.org/uniprot/Q17QJ1">http://www.uniprot.org/uniprot/Q17QJ1</a>
Transthyretin	<b>45</b>	16.4	3	<b>P49143</b>	<a href="http://www.uniprot.org/uniprot/P49143">http://www.uniprot.org/uniprot/P49143</a>
Putative uncharacterized protein DKFZp434L187	<b>62</b>	15.1	8	<b>Q9UFV3</b>	<a href="http://www.uniprot.org/uniprot/Q9UFV3">http://www.uniprot.org/uniprot/Q9UFV3</a>
Protein AAR2 homolog	<b>52</b>	43.9	10	<b>Q08DJ7</b>	<a href="http://www.uniprot.org/uniprot/Q08DJ7">http://www.uniprot.org/uniprot/Q08DJ7</a>
Annexin A5	<b>55</b>	36	5	<b>P08758</b>	<a href="http://www.uniprot.org/uniprot/P08758">http://www.uniprot.org/uniprot/P08758</a>
Apolipoprotein A-II	<b>53</b>	11.3	5	<b>P0DN36</b>	<a href="http://www.uniprot.org/uniprot/P0DN36">http://www.uniprot.org/uniprot/P0DN36</a>
Retinol-binding protein 4	<b>44</b>	23.4	6	<b>P27485</b>	<a href="http://www.uniprot.org/uniprot/P27485">http://www.uniprot.org/uniprot/P27485</a>
BTB/POZ domain-containing protein KCTD1	<b>49</b>	29.7	6	<b>Q719H9</b>	<a href="http://www.uniprot.org/uniprot/Q719H9">http://www.uniprot.org/uniprot/Q719H9</a>
Collagen alpha-2(I) chain	<b>45</b>	80.9	11	<b>C0HJP6</b>	<a href="http://www.uniprot.org/uniprot/C0HJP6">http://www.uniprot.org/uniprot/C0HJP6</a>
L-gulonolactone oxidase	<b>55</b>	51	13	<b>Q8HXW0</b>	<a href="http://www.uniprot.org/uniprot/Q8HXW0">http://www.uniprot.org/uniprot/Q8HXW0</a>
Zinc finger protein 624	<b>58</b>	102.5	12	<b>Q9P2J8</b>	<a href="http://www.uniprot.org/uniprot/Q9P2J8">http://www.uniprot.org/uniprot/Q9P2J8</a>
Cilia- and flagella-associated protein 52	<b>57</b>	69.2	11	<b>Q8N1V2</b>	<a href="http://www.uniprot.org/uniprot/Q8N1V2">http://www.uniprot.org/uniprot/Q8N1V2</a>
Autophagy-related protein 16-1	<b>53</b>	68.9	12	<b>Q676U5</b>	<a href="http://www.uniprot.org/uniprot/Q676U5">http://www.uniprot.org/uniprot/Q676U5</a>
IQ domain-containing protein D	<b>55</b>	51.8	13	<b>Q17QH9</b>	<a href="http://www.uniprot.org/uniprot/Q17QH9">http://www.uniprot.org/uniprot/Q17QH9</a>
Fibroblast growth factor 12	<b>55</b>	27.6	6	<b>P61328</b>	<a href="http://www.uniprot.org/uniprot/P61328">http://www.uniprot.org/uniprot/P61328</a>
Interferon-induced protein with tetratricopeptide repeats 1	<b>52</b>	52.8	12	<b>Q4R5F5</b>	<a href="http://www.uniprot.org/uniprot/Q4R5F5">http://www.uniprot.org/uniprot/Q4R5F5</a>
Fanconi anemia group B protein	<b>50</b>	99.4	13	<b>Q8NB91</b>	<a href="http://www.uniprot.org/uniprot/Q8NB91">http://www.uniprot.org/uniprot/Q8NB91</a>
Protein TMEM155	<b>55</b>	14.4	5	<b>Q5R4Y3</b>	<a href="http://www.uniprot.org/uniprot/Q5R4Y3">http://www.uniprot.org/uniprot/Q5R4Y3</a>

Transmembrane protein 225	<b>58</b>	26.3	5	<b>Q6GV28</b>	<a href="http://www.uniprot.org/uniprot/Q6GV28">http://www.uniprot.org/uniprot/Q6GV28</a>
Telomerase reverse transcriptase	<b>65</b>	128.6	10	<b>O14746</b>	<a href="http://www.uniprot.org/uniprot/O14746">http://www.uniprot.org/uniprot/O14746</a>
Tetratricopeptide repeat protein 36	<b>64</b>	20.7	9	<b>Q3SZV0</b>	<a href="http://www.uniprot.org/uniprot/Q3SZV0">http://www.uniprot.org/uniprot/Q3SZV0</a>
Arginine/serine-rich protein 1	<b>52</b>	33.7	8	<b>Q9BUV0</b>	<a href="http://www.uniprot.org/uniprot/Q9BUV0">http://www.uniprot.org/uniprot/Q9BUV0</a>
V-set and transmembrane domain-containing protein 2B	<b>61</b>	30.4	6	<b>A6NLU5</b>	<a href="http://www.uniprot.org/uniprot/A6NLU5">http://www.uniprot.org/uniprot/A6NLU5</a>
Ninein	<b>52</b>	245.2	20	<b>Q8N4C6</b>	<a href="http://www.uniprot.org/uniprot/Q8N4C6">http://www.uniprot.org/uniprot/Q8N4C6</a>
Electron transfer flavoprotein subunit beta	<b>51</b>	27.9	7	<b>Q68FU3</b>	<a href="http://www.uniprot.org/uniprot/Q68FU3">http://www.uniprot.org/uniprot/Q68FU3</a>
Coiled-coil domain-containing protein 25	<b>53</b>	24.6	6	<b>Q86WR0</b>	<a href="http://www.uniprot.org/uniprot/Q86WR0">http://www.uniprot.org/uniprot/Q86WR0</a>
Protein-arginine deiminase type-2	<b>49</b>	76	8	<b>P20717</b>	<a href="http://www.uniprot.org/uniprot/P20717">http://www.uniprot.org/uniprot/P20717</a>
Radical S-adenosyl methionine domain-containing protein 2	<b>55</b>	42.4	8	<b>Q9MZU4</b>	<a href="http://www.uniprot.org/uniprot/Q9MZU4">http://www.uniprot.org/uniprot/Q9MZU4</a>
Golgi SNAP receptor complex member 1	<b>61</b>	28.6	7	<b>O88630</b>	<a href="http://www.uniprot.org/uniprot/O88630">http://www.uniprot.org/uniprot/O88630</a>
BTB/POZ domain-containing protein KCTD1	<b>55</b>	29.7	5	<b>Q719H9</b>	<a href="http://www.uniprot.org/uniprot/Q719H9">http://www.uniprot.org/uniprot/Q719H9</a>
Zinc finger and SCAN domain-containing protein 5A	<b>57</b>	56.9	9	<b>Q9BUG6</b>	<a href="http://www.uniprot.org/uniprot/Q9BUG6">http://www.uniprot.org/uniprot/Q9BUG6</a>
Calcium-binding mitochondrial carrier protein SCaMC-3	<b>51</b>	52.7	9	<b>Q6GQS1</b>	<a href="http://www.uniprot.org/uniprot/Q6GQS1">http://www.uniprot.org/uniprot/Q6GQS1</a>



401 **Table 2**

402 Peptides identified in the urine of dogs with babesiosis.

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Protein name	Score	Mass	Matches	Access no.	Hyperlink
Lipase member N	<b>54</b>	45.7	8	<b>Q5VXI9</b>	<a href="http://www.uniprot.org/uniprot/Q5VXI9">http://www.uniprot.org/uniprot/Q5VXI9</a>
Succinyl-CoA ligase [ADP-forming] subunit beta, mitochondrial	<b>57</b>	50.3	9	<b>Q4R517</b>	<a href="http://www.uniprot.org/uniprot/Q4R517">http://www.uniprot.org/uniprot/Q4R517</a>
TATA box-binding protein-like protein 2	<b>51</b>	39.3	5	<b>Q6SJ95</b>	<a href="http://www.uniprot.org/uniprot/Q6SJ95">http://www.uniprot.org/uniprot/Q6SJ95</a>
Interferon gamma	<b>53</b>	18.1	5	<b>P01581</b>	<a href="http://www.uniprot.org/uniprot/P01581">http://www.uniprot.org/uniprot/P01581</a>
m7GpppX diphosphatase	<b>57</b>	38.8	9	<b>Q96C86</b>	<a href="http://www.uniprot.org/uniprot/Q96C86">http://www.uniprot.org/uniprot/Q96C86</a>
Peptidyl-prolyl cis-trans isomerase F, mitochondrial	<b>52</b>	22.	6	<b>P30404</b>	<a href="http://www.uniprot.org/uniprot/P30404">http://www.uniprot.org/uniprot/P30404</a>
Mast cell carboxypeptidase A	<b>52</b>	48.9	6	<b>P15088</b>	<a href="http://www.uniprot.org/uniprot/P15088">http://www.uniprot.org/uniprot/P15088</a>
SprT-like domain-containing protein Spartan	<b>54</b>	56.1	14	<b>G3X912</b>	<a href="http://www.uniprot.org/uniprot/G3X912">http://www.uniprot.org/uniprot/G3X912</a>
39S ribosomal protein L50, mitochondrial	<b>54</b>	18.3	9	<b>Q8VDT9</b>	<a href="http://www.uniprot.org/uniprot/Q8VDT9">http://www.uniprot.org/uniprot/Q8VDT9</a>
Trafficking protein particle complex subunit 1	<b>55</b>	17	6	<b>Q5NCF2</b>	<a href="http://www.uniprot.org/uniprot/Q5NCF2">http://www.uniprot.org/uniprot/Q5NCF2</a>
Desmin	<b>36</b>	53.3	9	<b>Q5XFN2</b>	<a href="http://www.uniprot.org/uniprot/Q5XFN2">http://www.uniprot.org/uniprot/Q5XFN2</a>
Dysferlin	<b>57</b>	240	17	<b>Q9ESD7</b>	<a href="http://www.uniprot.org/uniprot/Q9ESD7">http://www.uniprot.org/uniprot/Q9ESD7</a>
Leucine-rich repeat-containing protein 14 O	<b>54</b>	55.7	6	<b>A5PJJ5</b>	<a href="http://www.uniprot.org/uniprot/A5PJJ5">http://www.uniprot.org/uniprot/A5PJJ5</a>
Coenzyme Q-binding protein COQ10 homolog B, mitochondrial	<b>58</b>	28	10	<b>Q5I0I9</b>	<a href="http://www.uniprot.org/uniprot/Q5I0I9">http://www.uniprot.org/uniprot/Q5I0I9</a>
Bactericidal permeability-increasing protein (fragment)	<b>54</b>	49	6	<b>Q28739</b>	<a href="http://www.uniprot.org/uniprot/Q28739">http://www.uniprot.org/uniprot/Q28739</a>
G protein-activated inward rectifier potassium channel 4	<b>51</b>	48.3	6	<b>P48548</b>	<a href="http://www.uniprot.org/uniprot/P48548">http://www.uniprot.org/uniprot/P48548</a>
Gamma-aminobutyric acid receptor subunit beta-2	<b>56</b>	59.3	11	<b>P47870</b>	<a href="http://www.uniprot.org/uniprot/P47870">http://www.uniprot.org/uniprot/P47870</a>
Ankyrin repeat domain-containing protein 42	<b>53</b>	43.6	7	<b>Q8N9B4</b>	<a href="http://www.uniprot.org/uniprot/Q8N9B4">http://www.uniprot.org/uniprot/Q8N9B4</a>
Protein FAM83B	<b>62</b>	115.2	9	<b>Q5T0W9</b>	<a href="http://www.uniprot.org/uniprot/Q5T0W9">http://www.uniprot.org/uniprot/Q5T0W9</a>
Gamma-aminobutyric acid receptor subunit alpha-4	<b>62</b>	61.3	8	<b>Q9D6F4</b>	<a href="http://www.uniprot.org/uniprot/Q9D6F4">http://www.uniprot.org/uniprot/Q9D6F4</a>
Zinc finger protein 624	<b>61</b>	102.5	14	<b>Q9P2J8</b>	<a href="http://www.uniprot.org/uniprot/Q9P2J8">http://www.uniprot.org/uniprot/Q9P2J8</a>
Hyaluronan and proteoglycan link protein 2	<b>54</b>	38.6	8	<b>Q9ESM3</b>	<a href="http://www.uniprot.org/uniprot/Q9ESM3">http://www.uniprot.org/uniprot/Q9ESM3</a>
HAUS augmin-like complex subunit 2	<b>55</b>	23.4	4	<b>Q5RE16</b>	<a href="http://www.uniprot.org/uniprot/Q5RE16">http://www.uniprot.org/uniprot/Q5RE16</a>
Thromboxane-A synthase	<b>54</b>	60.7	10	<b>P49430</b>	<a href="http://www.uniprot.org/uniprot/P49430">http://www.uniprot.org/uniprot/P49430</a>
Vimentin	<b>54</b>	53.7	12	<b>P20152</b>	<a href="http://www.uniprot.org/uniprot/P20152">http://www.uniprot.org/uniprot/P20152</a>
TD and POZ domain-	<b>51</b>	42.2	10	<b>Q717B2</b>	<a href="http://www.uniprot.org/uniprot/Q717B2">http://www.uniprot.org/uniprot/Q717B2</a>

containing protein 2					
Kinase suppressor of Ras 2	<b>62</b>	110	22	<b>Q3UVC0</b>	<a href="http://www.uniprot.org/uniprot/Q3UVC0">http://www.uniprot.org/uniprot/Q3UVC0</a>
Cortexin-2	<b>55</b>	9.2	8	<b>Q3URE8</b>	<a href="http://www.uniprot.org/uniprot/Q3URE8">http://www.uniprot.org/uniprot/Q3URE8</a>
Transmembrane protein 240	<b>53</b>	20.3	5	<b>Q5SV17</b>	<a href="http://www.uniprot.org/uniprot/Q5SV17">http://www.uniprot.org/uniprot/Q5SV17</a>
Protein FAM71C	<b>50</b>	27.9	11	<b>Q8NEG0</b>	<a href="http://www.uniprot.org/uniprot/Q8NEG0">http://www.uniprot.org/uniprot/Q8NEG0</a>
Carboxylesterase 1E	<b>58</b>	61.8	13	<b>Q64176</b>	<a href="http://www.uniprot.org/uniprot/Q64176">http://www.uniprot.org/uniprot/Q64176</a>
Cytochrome P450 3A31	<b>67</b>	58	13	<b>O70537</b>	<a href="http://www.uniprot.org/uniprot/O70537">http://www.uniprot.org/uniprot/O70537</a>
Leucine-rich repeat-containing protein 14	<b>61</b>	55.3	6	Q15048	<a href="http://www.uniprot.org/uniprot/Q15048">http://www.uniprot.org/uniprot/Q15048</a>
Protein phosphatase Slingshot homolog 1	<b>66</b>	116.5	15	Q8WYL5	<a href="http://www.uniprot.org/uniprot/Q8WYL5">http://www.uniprot.org/uniprot/Q8WYL5</a>
Twinkle protein, mitochondrial	<b>53</b>	77.6	8	<b>Q96RR1</b>	<a href="http://www.uniprot.org/uniprot/Q96RR1">http://www.uniprot.org/uniprot/Q96RR1</a>
Ubiquitin-conjugating enzyme E2 N	<b>53</b>	17.2	4	<b>Q0P5K3</b>	<a href="http://www.uniprot.org/uniprot/Q0P5K3">http://www.uniprot.org/uniprot/Q0P5K3</a>
Delta-1-pyrroline-5-carboxylate synthase	<b>55</b>	87.8	7	<b>Q9Z110</b>	<a href="http://www.uniprot.org/uniprot/Q9Z110">http://www.uniprot.org/uniprot/Q9Z110</a>
40S ribosomal protein S11	<b>35</b>	18.6	3	Q9XSU4	<a href="http://www.uniprot.org/uniprot/Q9XSU4">http://www.uniprot.org/uniprot/Q9XSU4</a>
Synaptic vesicle membrane protein VAT-1 homolog-like	<b>61</b>	46.2	8	Q9HCJ6	<a href="http://www.uniprot.org/uniprot/Q9HCJ6">http://www.uniprot.org/uniprot/Q9HCJ6</a>
Glutamyl-tRNA(Gln) amidotransferase subunit C, mitochondrial	<b>40</b>	18	6	E2RK33	<a href="http://www.uniprot.org/uniprot/E2RK33">http://www.uniprot.org/uniprot/E2RK33</a>
Trafficking protein particle complex subunit 1	<b>63</b>	17	7	Q5NCF2	<a href="http://www.uniprot.org/uniprot/Q5NCF2">http://www.uniprot.org/uniprot/Q5NCF2</a>
Rab GDP dissociation inhibitor beta	<b>44</b>	50.8	8	O97556	<a href="http://www.uniprot.org/uniprot/O97556">http://www.uniprot.org/uniprot/O97556</a>
Parvalbumin alpha	<b>54</b>	12.1	10	<b>P20472</b>	<a href="http://www.uniprot.org/uniprot/P20472">http://www.uniprot.org/uniprot/P20472</a>
B-cell lymphoma 6 protein homolog	<b>52</b>	58.8	11	<b>P41183</b>	<a href="http://www.uniprot.org/uniprot/P41183">http://www.uniprot.org/uniprot/P41183</a>
Probable tubulin polyglutamylase TTL1	<b>53</b>	49.5	9	<b>Q5PPI9</b>	<a href="http://www.uniprot.org/uniprot/Q5PPI9">http://www.uniprot.org/uniprot/Q5PPI9</a>
Neurofilament medium polypeptide	<b>50</b>	95.8	7	<b>P12839</b>	<a href="http://www.uniprot.org/uniprot/P12839">http://www.uniprot.org/uniprot/P12839</a>
Suppressor of tumorigenicity 7 protein	<b>55</b>	67.7	9	<b>Q07E08</b>	<a href="http://www.uniprot.org/uniprot/Q07E08">http://www.uniprot.org/uniprot/Q07E08</a>
Vesicle transport protein USE1	<b>67</b>	30.8	7	<b>Q9CQ56</b>	<a href="http://www.uniprot.org/uniprot/Q9CQ56">http://www.uniprot.org/uniprot/Q9CQ56</a>
Protein C12orf4 homolog	<b>67</b>	54.3	8	<b>D4A770</b>	<a href="http://www.uniprot.org/uniprot/D4A770">http://www.uniprot.org/uniprot/D4A770</a>
Cell death activator CIDE-A	<b>67</b>	24.8	6	<b>O70302</b>	<a href="http://www.uniprot.org/uniprot/O70302">http://www.uniprot.org/uniprot/O70302</a>
Tryptophan 5-hydroxylase 2	<b>58</b>	56.8	9	<b>Q2HZ26</b>	<a href="http://www.uniprot.org/uniprot/Q2HZ26">http://www.uniprot.org/uniprot/Q2HZ26</a>
Kelch-like protein	<b>57</b>	70.2	8	<b>Q2T9Z7</b>	<a href="http://www.uniprot.org/uniprot/Q2T9Z7">http://www.uniprot.org/uniprot/Q2T9Z7</a>
Ubiquitin carboxyl-terminal hydrolase 37	<b>63</b>	111	12	<b>Q86T82</b>	<a href="http://www.uniprot.org/uniprot/Q86T82">http://www.uniprot.org/uniprot/Q86T82</a>
Coatomer subunit beta'	<b>60</b>	103.2	6	<b>P35605</b>	<a href="http://www.uniprot.org/uniprot/P35605">http://www.uniprot.org/uniprot/P35605</a>
Centrosomal protein of 170 kDa protein B	<b>61</b>	171.2	11	<b>Q80U49</b>	<a href="http://www.uniprot.org/uniprot/Q80U49">http://www.uniprot.org/uniprot/Q80U49</a>
Eukaryotic translation initiation factor 4 gamma 2	<b>68</b>	102.6	15	<b>Q62448</b>	<a href="http://www.uniprot.org/uniprot/Q62448">http://www.uniprot.org/uniprot/Q62448</a>
Trifunctional enzyme subunit alpha, mitochondrial	<b>51</b>	83.3	6	<b>Q64428</b>	<a href="http://www.uniprot.org/uniprot/Q64428">http://www.uniprot.org/uniprot/Q64428</a>
Isovaleryl-CoA dehydrogenase, mitochondrial	<b>55</b>	46.9	6	<b>P12007</b>	<a href="http://www.uniprot.org/uniprot/P12007">http://www.uniprot.org/uniprot/P12007</a>



Pericentrin	<b>60</b>	380.6	32	<b>O95613</b>	<a href="http://www.uniprot.org/uniprot/O95613">http://www.uniprot.org/uniprot/O95613</a>
Hydroxysteroid dehydrogenase-like protein 2	<b>54</b>	45.5	5	<b>A4FUZ6</b>	<a href="http://www.uniprot.org/uniprot/A4FUZ6">http://www.uniprot.org/uniprot/A4FUZ6</a>
Ras-related protein Rab-34, isoform NARR	<b>53</b>	21.1	4	<b>P0DI83</b>	<a href="http://www.uniprot.org/uniprot/P0DI83">http://www.uniprot.org/uniprot/P0DI83</a>
Interferon-induced protein with tetratricopeptide repeats 1	<b>70</b>	55.8	11	<b>Q4R5F5</b>	<a href="http://www.uniprot.org/uniprot/Q4R5F5">http://www.uniprot.org/uniprot/Q4R5F5</a>
Cysteine--tRNA ligase, mitochondrial	<b>62</b>	62	12	<b>Q2KIF8</b>	<a href="http://www.uniprot.org/uniprot/Q2KIF8">http://www.uniprot.org/uniprot/Q2KIF8</a>
Ubiquitin carboxyl-terminal hydrolase 37	<b>63</b>	111.2	13	<b>F1N5V1</b>	<a href="http://www.uniprot.org/uniprot/F1N5V1">http://www.uniprot.org/uniprot/F1N5V1</a>
Interferon regulatory factor 2-binding protein 1	<b>67</b>	62.6	8	<b>Q8IU81</b>	<a href="http://www.uniprot.org/uniprot/Q8IU81">http://www.uniprot.org/uniprot/Q8IU81</a>
Ubiquitin carboxyl-terminal hydrolase 37	<b>84</b>	111.2	14	<b>F1N5V1</b>	<a href="http://www.uniprot.org/uniprot/F1N5V1">http://www.uniprot.org/uniprot/F1N5V1</a>
Centrosomal protein of 152 kDa	<b>55</b>	197.9	12	<b>O94986</b>	<a href="http://www.uniprot.org/uniprot/O94986">http://www.uniprot.org/uniprot/O94986</a>
E3 SUMO-protein ligase PIAS2	<b>57</b>	64.3	9	<b>Q6AZ28</b>	<a href="http://www.uniprot.org/uniprot/Q6AZ28">http://www.uniprot.org/uniprot/Q6AZ28</a>
ATR-interacting protein	<b>61</b>	72.4	11	<b>Q9N077</b>	<a href="http://www.uniprot.org/uniprot/Q9N077">http://www.uniprot.org/uniprot/Q9N077</a>
T-cell surface glycoprotein CD3 epsilon chain	<b>54</b>	23	4	<b>P27597</b>	<a href="http://www.uniprot.org/uniprot/P27597">http://www.uniprot.org/uniprot/P27597</a>
Rab GDP dissociation inhibitor beta	<b>55</b>	50.8	10	<b>O97556</b>	<a href="http://www.uniprot.org/uniprot/O97556">http://www.uniprot.org/uniprot/O97556</a>
Elongation factor Tu GTP-binding domain-containing protein 1	<b>64</b>	127.1	16	<b>Q8C0D5</b>	<a href="http://www.uniprot.org/uniprot/Q8C0D5">http://www.uniprot.org/uniprot/Q8C0D5</a>
HIV Tat-specific factor 1 homolog	<b>57</b>	86.6	12	<b>Q8BGC0</b>	<a href="http://www.uniprot.org/uniprot/Q8BGC0">http://www.uniprot.org/uniprot/Q8BGC0</a>
Peptidyl-prolyl cis-trans isomerase A	<b>58</b>	18.1	5	<b>Q9TTC6</b>	<a href="http://www.uniprot.org/uniprot/Q9TTC6">http://www.uniprot.org/uniprot/Q9TTC6</a>
Tektin-4	<b>58</b>	51.3	7	<b>Q8WW24</b>	<a href="http://www.uniprot.org/uniprot/Q8WW24">http://www.uniprot.org/uniprot/Q8WW24</a>
Sp110 nuclear body protein	<b>58</b>	79.6	9	<b>Q9HB58</b>	<a href="http://www.uniprot.org/uniprot/Q9HB58">http://www.uniprot.org/uniprot/Q9HB58</a>
Rab11 family-interacting protein 5	<b>57</b>	69.9	10	<b>Q8R361</b>	<a href="http://www.uniprot.org/uniprot/Q8R361">http://www.uniprot.org/uniprot/Q8R361</a>
Alkyldihydroxyacetonephosphate synthase, peroxisomal	<b>53</b>	73.7	8	<b>O00116</b>	<a href="http://www.uniprot.org/uniprot/O00116">http://www.uniprot.org/uniprot/O00116</a>
Fibroblast growth factor 9	<b>57</b>	23.5	4	<b>P31371</b>	<a href="http://www.uniprot.org/uniprot/P31371">http://www.uniprot.org/uniprot/P31371</a>
Lysozyme C	<b>52</b>	16.9	5	<b>Q659U0</b>	<a href="http://www.uniprot.org/uniprot/Q659U0">http://www.uniprot.org/uniprot/Q659U0</a>
Phosphoribosyl pyrophosphate synthase-associated protein 2	<b>55</b>	41.2	7	<b>O08618</b>	<a href="http://www.uniprot.org/uniprot/O08618">http://www.uniprot.org/uniprot/O08618</a>
Zona pellucida sperm-binding protein 3	<b>60</b>	47.1	6	<b>P42098</b>	<a href="http://www.uniprot.org/uniprot/P42098">http://www.uniprot.org/uniprot/P42098</a>
Galactoside 2-alpha-L-fucosyltransferase 2	<b>62</b>	39.1	8	<b>O77485</b>	<a href="http://www.uniprot.org/uniprot/O77485">http://www.uniprot.org/uniprot/O77485</a>
39S ribosomal protein L30, mitochondrial	<b>56</b>	18.7	7	<b>Q58DV5</b>	<a href="http://www.uniprot.org/uniprot/Q58DV5">http://www.uniprot.org/uniprot/Q58DV5</a>
Desmin	<b>47</b>	53.3	6	<b>Q5XFN2</b>	<a href="http://www.uniprot.org/uniprot/Q5XFN2">http://www.uniprot.org/uniprot/Q5XFN2</a>
Dipeptidyl peptidase 1 (fragment)	<b>43</b>	50.1	4	<b>O97578</b>	<a href="http://www.uniprot.org/uniprot/O97578">http://www.uniprot.org/uniprot/O97578</a>
Vimentin	<b>50</b>	53.7	8	<b>P20152</b>	<a href="http://www.uniprot.org/uniprot/P20152">http://www.uniprot.org/uniprot/P20152</a>
Serine/threonine-protein kinase 3	<b>53</b>	57.1	9	<b>Q9JI10</b>	<a href="http://www.uniprot.org/uniprot/Q9JI10">http://www.uniprot.org/uniprot/Q9JI10</a>
Neurofilament medium polypeptide	<b>62</b>	95.8	12	<b>P12839</b>	<a href="http://www.uniprot.org/uniprot/P12839">http://www.uniprot.org/uniprot/P12839</a>

Rab GDP dissociation inhibitor beta	<b>62</b>	50.8	8	<b>O97556</b>	<a href="http://www.uniprot.org/uniprot/O97556">http://www.uniprot.org/uniprot/O97556</a>
Zinc finger protein 624	<b>65</b>	102.5	10	<b>Q9P2J8</b>	<a href="http://www.uniprot.org/uniprot/Q9P2J8">http://www.uniprot.org/uniprot/Q9P2J8</a>
Uncharacterized protein KIAA1683 homolog	<b>64</b>	87	6	<b>Q8WNU4</b>	<a href="http://www.uniprot.org/uniprot/Q8WNU4">http://www.uniprot.org/uniprot/Q8WNU4</a>
Phosphatidylserine decarboxylase proenzyme	<b>56</b>	47.7	5	<b>Q58DH2</b>	<a href="http://www.uniprot.org/uniprot/Q58DH2">http://www.uniprot.org/uniprot/Q58DH2</a>
Probable tubulin polyglutamylase TLL1	<b>66</b>	49.4	9	<b>Q0VC71</b>	<a href="http://www.uniprot.org/uniprot/Q0VC71">http://www.uniprot.org/uniprot/Q0VC71</a>
ATP synthase subunit d, mitochondrial	<b>63</b>	18.7	5	<b>P13620</b>	<a href="http://www.uniprot.org/uniprot/P13620">http://www.uniprot.org/uniprot/P13620</a>
Breast cancer anti-estrogen resistance protein 3	<b>61</b>	93.5	8	<b>Q58DL5</b>	<a href="http://www.uniprot.org/uniprot/Q58DL5">http://www.uniprot.org/uniprot/Q58DL5</a>
Sperm surface protein Sp17	<b>61</b>	17.4	4	<b>Q15506</b>	<a href="http://www.uniprot.org/uniprot/Q15506">http://www.uniprot.org/uniprot/Q15506</a>
Actin-related protein T1	<b>55</b>	42.1	6	<b>Q4R821</b>	<a href="http://www.uniprot.org/uniprot/Q4R821">http://www.uniprot.org/uniprot/Q4R821</a>
Inhibitor of nuclear factor kappa-B kinase subunit beta	<b>54</b>	87.8	7	<b>O88351</b>	<a href="http://www.uniprot.org/uniprot/O88351">http://www.uniprot.org/uniprot/O88351</a>
Glucosamine-6-phosphate isomerase 2	<b>53</b>	31.3	5	<b>Q9CRC9</b>	<a href="http://www.uniprot.org/uniprot/Q9CRC9">http://www.uniprot.org/uniprot/Q9CRC9</a>
E3 ubiquitin-protein ligase TRIM32	<b>55</b>	73.5	9	<b>Q13049</b>	<a href="http://www.uniprot.org/uniprot/Q13049">http://www.uniprot.org/uniprot/Q13049</a>
Protein FAM98B	<b>56</b>	45.9	6	<b>Q80VD1</b>	<a href="http://www.uniprot.org/uniprot/Q80VD1">http://www.uniprot.org/uniprot/Q80VD1</a>
DNA topoisomerase 2-alpha	<b>56</b>	173.5	11	<b>Q01320</b>	<a href="http://www.uniprot.org/uniprot/Q01320">http://www.uniprot.org/uniprot/Q01320</a>
Interferon alpha-1/13	<b>50</b>	22.1	4	<b>P01562</b>	<a href="http://www.uniprot.org/uniprot/P01562">http://www.uniprot.org/uniprot/P01562</a>
Bone morphogenetic protein 7	<b>56</b>	21.5	6	<b>P34819</b>	<a href="http://www.uniprot.org/uniprot/P34819">http://www.uniprot.org/uniprot/P34819</a>
Protein phosphatase Slingshot homolog 1	<b>60</b>	116.5	16	<b>Q8WYL5</b>	<a href="http://www.uniprot.org/uniprot/Q8WYL5">http://www.uniprot.org/uniprot/Q8WYL5</a>
Serum albumin	<b>42</b>	70.6	14	<b>P49822</b>	<a href="http://www.uniprot.org/uniprot/P49822">http://www.uniprot.org/uniprot/P49822</a>
Peroxiredoxin-1	<b>61</b>	22.3	9	<b>Q6B4U9</b>	<a href="http://www.uniprot.org/uniprot/Q6B4U9">http://www.uniprot.org/uniprot/Q6B4U9</a>
Zinc finger BED domain-containing protein 5	<b>48</b>	80.2	11	<b>A4Z944</b>	<a href="http://www.uniprot.org/uniprot/A4Z944">http://www.uniprot.org/uniprot/A4Z944</a>
Zinc finger and SCAN domain-containing protein 9	<b>57</b>	47	9	<b>O15535</b>	<a href="http://www.uniprot.org/uniprot/O15535">http://www.uniprot.org/uniprot/O15535</a>
NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 2	<b>69</b>	11.1	7	<b>Q4R5E2</b>	<a href="http://www.uniprot.org/uniprot/Q4R5E2">http://www.uniprot.org/uniprot/Q4R5E2</a>
Tektin-4	<b>67</b>	51.3	11	<b>Q8WW24</b>	<a href="http://www.uniprot.org/uniprot/Q8WW24">http://www.uniprot.org/uniprot/Q8WW24</a>
Elongation factor Tu GTP-binding domain-containing protein 1	<b>70</b>	127.1	16	<b>Q8C0D5</b>	<a href="http://www.uniprot.org/uniprot/Q8C0D5">http://www.uniprot.org/uniprot/Q8C0D5</a>
DCC-interacting protein 13-beta	<b>68</b>	75	7	<b>Q8NEU8</b>	<a href="http://www.uniprot.org/uniprot/Q8NEU8">http://www.uniprot.org/uniprot/Q8NEU8</a>
Ras-related protein Rab-28	<b>55</b>	25	5	<b>Q3SWY9</b>	<a href="http://www.uniprot.org/uniprot/Q3SWY9">http://www.uniprot.org/uniprot/Q3SWY9</a>
Translation initiation factor eIF-2B subunit delta	<b>55</b>	58.4	8	<b>Q63186</b>	<a href="http://www.uniprot.org/uniprot/Q63186">http://www.uniprot.org/uniprot/Q63186</a>
D-beta-hydroxybutyrate dehydrogenase, mitochondrial	<b>62</b>	15.2	7	<b>P86198</b>	<a href="http://www.uniprot.org/uniprot/P86198">http://www.uniprot.org/uniprot/P86198</a>
Gap junction alpha-8 protein	<b>69</b>	49.9	12	<b>Q8K4Q9</b>	<a href="http://www.uniprot.org/uniprot/Q8K4Q9">http://www.uniprot.org/uniprot/Q8K4Q9</a>
Dual-specificity phosphatase 28	<b>54</b>	18.7	7	<b>Q4G0W2</b>	<a href="http://www.uniprot.org/uniprot/Q4G0W2">http://www.uniprot.org/uniprot/Q4G0W2</a>
39S ribosomal protein L30,	<b>53</b>	18.7	7	<b>Q58DV5</b>	<a href="http://www.uniprot.org/uniprot/Q58DV5">http://www.uniprot.org/uniprot/Q58DV5</a>

mitochondrial					
Ras-related protein Rab-36	<b>61</b>	36.8	12	<b>O95755</b>	<a href="http://www.uniprot.org/uniprot/O95755">http://www.uniprot.org/uniprot/O95755</a>
tRNA-dihydrouridine(20) synthase [NAD(P)+]-like	<b>50</b>	55.8	10	<b>Q9NX74</b>	<a href="http://www.uniprot.org/uniprot/Q9NX74">http://www.uniprot.org/uniprot/Q9NX74</a>
AP-3 complex subunit mu-2	<b>55</b>	47.2	5	<b>P53677</b>	<a href="http://www.uniprot.org/uniprot/P53677">http://www.uniprot.org/uniprot/P53677</a>
OTU domain-containing protein 6B	<b>52</b>	34	7	<b>Q8N6M0</b>	<a href="http://www.uniprot.org/uniprot/Q8N6M0">http://www.uniprot.org/uniprot/Q8N6M0</a>
A-kinase anchor protein 10, mitochondrial	<b>57</b>	74.1	10	<b>O88845</b>	<a href="http://www.uniprot.org/uniprot/O88845">http://www.uniprot.org/uniprot/O88845</a>
Hemoglobin subunit beta	<b>56</b>	16.3	6	<b>P02073</b>	<a href="http://www.uniprot.org/uniprot/P02073">http://www.uniprot.org/uniprot/P02073</a>
Single-pass membrane and coiled-coil domain-containing protein 2	<b>55</b>	34.1	8	<b>Q95JR4</b>	<a href="http://www.uniprot.org/uniprot/Q95JR4">http://www.uniprot.org/uniprot/Q95JR4</a>
Myotrophin	<b>56</b>	13.1	5	<b>Q3T0F7</b>	<a href="http://www.uniprot.org/uniprot/Q3T0F7">http://www.uniprot.org/uniprot/Q3T0F7</a>
Zinc finger protein 622	<b>77</b>	54.8	17	<b>Q969S3</b>	<a href="http://www.uniprot.org/uniprot/Q969S3">http://www.uniprot.org/uniprot/Q969S3</a>
Protein POF1B	<b>63</b>	68.9	10	<b>Q8WVV4</b>	<a href="http://www.uniprot.org/uniprot/Q8WVV4">http://www.uniprot.org/uniprot/Q8WVV4</a>
HORMA domain-containing protein 1	<b>57</b>	45.4	8	<b>D3ZWE7</b>	<a href="http://www.uniprot.org/uniprot/D3ZWE7">http://www.uniprot.org/uniprot/D3ZWE7</a>
Sperm surface protein Sp17	<b>58</b>	17.4	7	<b>Q15506</b>	<a href="http://www.uniprot.org/uniprot/Q15506">http://www.uniprot.org/uniprot/Q15506</a>
Tyrosine-protein kinase BAZ1B	<b>56</b>	172.2	14	<b>Q9Z277</b>	<a href="http://www.uniprot.org/uniprot/Q9Z277">http://www.uniprot.org/uniprot/Q9Z277</a>
Nicolin-1	<b>43</b>	24.6	8	<b>Q861Y6</b>	<a href="http://www.uniprot.org/uniprot/Q861Y6">http://www.uniprot.org/uniprot/Q861Y6</a>
Parvalbumin alpha	<b>63</b>	12.1	11	<b>P20472</b>	<a href="http://www.uniprot.org/uniprot/P20472">http://www.uniprot.org/uniprot/P20472</a>
Vimentin (fragment)	<b>58</b>	51.9	12	<b>P48670</b>	<a href="http://www.uniprot.org/uniprot/P48670">http://www.uniprot.org/uniprot/P48670</a>
Protein FAM3C	<b>52</b>	24.9	7	<b>Q92520</b>	<a href="http://www.uniprot.org/uniprot/Q92520">http://www.uniprot.org/uniprot/Q92520</a>
Uncharacterized aarF domain-containing protein kinase 5	<b>53</b>	66.3	8	<b>Q3MIX3</b>	<a href="http://www.uniprot.org/uniprot/Q3MIX3">http://www.uniprot.org/uniprot/Q3MIX3</a>
Interferon-induced protein with tetratricopeptide repeats 1	<b>51</b>	55.8	9	<b>P09914</b>	<a href="http://www.uniprot.org/uniprot/P09914">http://www.uniprot.org/uniprot/P09914</a>
Oxidoreductase HTATIP2	<b>50</b>	27.4	10	<b>A2T7G9</b>	<a href="http://www.uniprot.org/uniprot/A2T7G9">http://www.uniprot.org/uniprot/A2T7G9</a>
Glutathione S-transferase alpha M14	<b>52</b>	25.4	10	<b>GSTA1_PIG</b>	<a href="http://www.uniprot.org/uniprot/P51781">http://www.uniprot.org/uniprot/P51781</a>
Sperm acrosome membrane-associated protein 3	<b>50</b>	18.8	8	<b>B6VH75</b>	<a href="http://www.uniprot.org/uniprot/B6VH75">http://www.uniprot.org/uniprot/B6VH75</a>
Protein FAM204A	<b>53</b>	27.1	6	<b>Q8C6C7</b>	<a href="http://www.uniprot.org/uniprot/Q8C6C7">http://www.uniprot.org/uniprot/Q8C6C7</a>
Ras-related protein Rab-36	<b>55</b>	36.8	8	<b>O95755</b>	<a href="http://www.uniprot.org/uniprot/O95755">http://www.uniprot.org/uniprot/O95755</a>
Neurofibromin	<b>50</b>	323.1	24	<b>Q04690</b>	<a href="http://www.uniprot.org/uniprot/Q04690">http://www.uniprot.org/uniprot/Q04690</a>
Oxidoreductase HTATIP2	<b>52</b>	27.4	6	<b>A2T7G9</b>	<a href="http://www.uniprot.org/uniprot/A2T7G9">http://www.uniprot.org/uniprot/A2T7G9</a>
Transmembrane emp24 domain-containing protein 9	<b>61</b>	27.5	6	<b>Q3T133</b>	<a href="http://www.uniprot.org/uniprot/Q3T133">http://www.uniprot.org/uniprot/Q3T133</a>
Centromere protein H	<b>61</b>	28	8	<b>Q3T0L1</b>	<a href="http://www.uniprot.org/uniprot/Q3T0L1">http://www.uniprot.org/uniprot/Q3T0L1</a>
Centrosomal protein of 104 kDa	<b>72</b>	105	14	<b>Q80V31</b>	<a href="http://www.uniprot.org/uniprot/Q80V31">http://www.uniprot.org/uniprot/Q80V31</a>
Nicolin-1	<b>55</b>	24.5	6	<b>Q9BSH3</b>	<a href="http://www.uniprot.org/uniprot/Q9BSH3">http://www.uniprot.org/uniprot/Q9BSH3</a>
Acylphosphatase-2	<b>57</b>	10.9	5	<b>P35745</b>	<a href="http://www.uniprot.org/uniprot/P35745">http://www.uniprot.org/uniprot/P35745</a>
Mitofusin-1	<b>58</b>	84.5	9	<b>Q811U4</b>	<a href="http://www.uniprot.org/uniprot/Q811U4">http://www.uniprot.org/uniprot/Q811U4</a>
Ras-related protein Rab-36	<b>54</b>	36.8	9	<b>O95755</b>	<a href="http://www.uniprot.org/uniprot/O95755">http://www.uniprot.org/uniprot/O95755</a>
Hippocalcin-like protein 1	<b>51</b>	22.4	7	<b>P62748</b>	<a href="http://www.uniprot.org/uniprot/P62748">http://www.uniprot.org/uniprot/P62748</a>

Stanniocalcin-2	<b>47</b>	34.1	9	<b>Q5RAT2</b>	<a href="http://www.uniprot.org/uniprot/Q5RAT2">http://www.uniprot.org/uniprot/Q5RAT2</a>
Major vault protein	<b>51</b>	96.2	14	<b>Q9EQK5</b>	<a href="http://www.uniprot.org/uniprot/Q9EQK5">http://www.uniprot.org/uniprot/Q9EQK5</a>
Peptidyl-prolyl cis-trans isomerase FKBP1A	<b>59</b>	12	4	<b>Q62658</b>	<a href="http://www.uniprot.org/uniprot/Q62658">http://www.uniprot.org/uniprot/Q62658</a>
Tyrosine-protein phosphatase non-receptor type 12	<b>54</b>	87.2	17	<b>P35831</b>	<a href="http://www.uniprot.org/uniprot/P35831">http://www.uniprot.org/uniprot/P35831</a>
Kinase suppressor of Ras 2	<b>52</b>	108.9	16	<b>Q6VAB6</b>	<a href="http://www.uniprot.org/uniprot/Q6VAB6">http://www.uniprot.org/uniprot/Q6VAB6</a>
Putative ATP-dependent RNA helicase DHX30	<b>54</b>	136.9	10	<b>Q2NKY8</b>	<a href="http://www.uniprot.org/uniprot/Q2NKY8">http://www.uniprot.org/uniprot/Q2NKY8</a>
U3 small nucleolar RNA-associated protein 14 homolog A	<b>53</b>	88.2	10	<b>Q3T0Q8</b>	<a href="http://www.uniprot.org/uniprot/Q3T0Q8">http://www.uniprot.org/uniprot/Q3T0Q8</a>
39S ribosomal protein L30, mitochondrial	<b>64</b>	18.7	7	<b>Q58DV5</b>	<a href="http://www.uniprot.org/uniprot/Q58DV5">http://www.uniprot.org/uniprot/Q58DV5</a>
Growth arrest and DNA damage-inducible proteins-interacting protein 1	<b>63</b>	25.9	8	<b>Q9CR59</b>	<a href="http://www.uniprot.org/uniprot/Q9CR59">http://www.uniprot.org/uniprot/Q9CR59</a>
Protein FAM57B	<b>66</b>	31.2	7	<b>Q71RH2</b>	<a href="http://www.uniprot.org/uniprot/Q71RH2">http://www.uniprot.org/uniprot/Q71RH2</a>
Ras-related protein Rab-9A	<b>35</b>	23.1	4	<b>P24408</b>	<a href="http://www.uniprot.org/uniprot/P24408">http://www.uniprot.org/uniprot/P24408</a>
Probable tubulin polyglutamylase TTLL1	<b>53</b>	49.5	6	<b>Q5PPI9</b>	<a href="http://www.uniprot.org/uniprot/Q5PPI9">http://www.uniprot.org/uniprot/Q5PPI9</a>
Adenylyl cyclase-associated protein 2	<b>51</b>	53.1	8	<b>Q9CYT6</b>	<a href="http://www.uniprot.org/uniprot/Q9CYT6">http://www.uniprot.org/uniprot/Q9CYT6</a>
Collagen alpha-1(I) chain (fragments)	<b>55</b>	75.2	12	<b>C0HJP1</b>	<a href="http://www.uniprot.org/uniprot/C0HJP1">http://www.uniprot.org/uniprot/C0HJP1</a>
NADH dehydrogenase [ubiquinone] flavoprotein 1, mitochondrial	<b>54</b>	51.4	8	<b>Q0MQI4</b>	<a href="http://www.uniprot.org/uniprot/Q0MQI4">http://www.uniprot.org/uniprot/Q0MQI4</a>
Rho GTPase-activating protein 18	<b>54</b>	75.2	9	<b>Q8N392</b>	<a href="http://www.uniprot.org/uniprot/Q8N392">http://www.uniprot.org/uniprot/Q8N392</a>
Rho GTPase-activating protein 39	<b>65</b>	122.2	11	<b>Q9C0H5</b>	<a href="http://www.uniprot.org/uniprot/Q9C0H5">http://www.uniprot.org/uniprot/Q9C0H5</a>
Unconventional myosin-Ie	<b>71</b>	127.4	13	<b>Q63356</b>	<a href="http://www.uniprot.org/uniprot/Q63356">http://www.uniprot.org/uniprot/Q63356</a>
Zinc finger and SCAN domain-containing protein 25	<b>55</b>	62.6	8	<b>Q6NSZ9</b>	<a href="http://www.uniprot.org/uniprot/Q6NSZ9">http://www.uniprot.org/uniprot/Q6NSZ9</a>
Four and a half LIM domains protein 2	<b>55</b>	34.1	5	<b>O35115</b>	<a href="http://www.uniprot.org/uniprot/O35115">http://www.uniprot.org/uniprot/O35115</a>
Putative uncharacterized protein MYH16	<b>59</b>	128.4	16	<b>Q9H6N6</b>	<a href="http://www.uniprot.org/uniprot/Q9H6N6">http://www.uniprot.org/uniprot/Q9H6N6</a>
EGF domain-specific O-linked N-acetylglucosamine transferase	<b>61</b>	62.6	12	<b>A0JND3</b>	<a href="http://www.uniprot.org/uniprot/A0JND3">http://www.uniprot.org/uniprot/A0JND3</a>
Annexin A10	<b>55</b>	37.8	6	<b>Q9UJ72</b>	<a href="http://www.uniprot.org/uniprot/Q9UJ72">http://www.uniprot.org/uniprot/Q9UJ72</a>
Beta-crystallin B2	<b>51</b>	37.8	4	<b>P02522</b>	<a href="http://www.uniprot.org/uniprot/P02522">http://www.uniprot.org/uniprot/P02522</a>
Tripartite motif-containing protein 42	<b>51</b>	85.7	8	<b>Q8IWZ5</b>	<a href="http://www.uniprot.org/uniprot/Q8IWZ5">http://www.uniprot.org/uniprot/Q8IWZ5</a>
Syndecan-4	<b>53</b>	21.5	4	<b>O35988</b>	<a href="http://www.uniprot.org/uniprot/O35988">http://www.uniprot.org/uniprot/O35988</a>
OTU domain-containing protein 6B	<b>53</b>	34	7	<b>Q8N6M0</b>	<a href="http://www.uniprot.org/uniprot/Q8N6M0">http://www.uniprot.org/uniprot/Q8N6M0</a>
Desmin	<b>65</b>	53.6	7	<b>O62654</b>	<a href="http://www.uniprot.org/uniprot/O62654">http://www.uniprot.org/uniprot/O62654</a>
Cytospin-A	<b>50</b>	125	10	<b>Q2KNA0</b>	<a href="http://www.uniprot.org/uniprot/Q2KNA0">http://www.uniprot.org/uniprot/Q2KNA0</a>
OTU domain-containing protein 6B	<b>53</b>	34	7	<b>Q8N6M0</b>	<a href="http://www.uniprot.org/uniprot/Q8N6M0">http://www.uniprot.org/uniprot/Q8N6M0</a>
Glutathione S-transferase alpha M14	<b>66</b>	25.4	6	<b>P51781</b>	<a href="http://www.uniprot.org/uniprot/P51781">http://www.uniprot.org/uniprot/P51781</a>

Ribosome-binding protein 1	<b>53</b>	164.8	13	<b>Q28298</b>	<a href="http://www.uniprot.org/uniprot/Q28298">http://www.uniprot.org/uniprot/Q28298</a>
Zinc finger protein castor homolog 1	<b>56</b>	193.3	18	<b>Q86V15</b>	<a href="http://www.uniprot.org/uniprot/Q86V15">http://www.uniprot.org/uniprot/Q86V15</a>
Sorting nexin-3	<b>53</b>	18.8	6	<b>Q1RMH8</b>	<a href="http://www.uniprot.org/uniprot/Q1RMH8">http://www.uniprot.org/uniprot/Q1RMH8</a>
Succinate dehydrogenase [ubiquinone] iron-sulfur subunit, mitochondrial	<b>61</b>	32.6	6	<b>Q9CQA3</b>	<a href="http://www.uniprot.org/uniprot/Q9CQA3">http://www.uniprot.org/uniprot/Q9CQA3</a>
Coiled-coil domain-containing protein 122	<b>60</b>	32.4	7	<b>Q5T0U0</b>	<a href="http://www.uniprot.org/uniprot/Q5T0U0">http://www.uniprot.org/uniprot/Q5T0U0</a>
Zinc finger C2HC domain-containing protein 1C	<b>58</b>	61.1	15	<b>Q9BGW4</b>	<a href="http://www.uniprot.org/uniprot/Q9BGW4">http://www.uniprot.org/uniprot/Q9BGW4</a>
Ceramide synthase 3	<b>58</b>	61.1	8	<b>Q8IU89</b>	<a href="http://www.uniprot.org/uniprot/Q8IU89">http://www.uniprot.org/uniprot/Q8IU89</a>
Tetratricopeptide repeat protein 36	<b>55</b>	20.7	8	<b>Q3SZV0</b>	<a href="http://www.uniprot.org/uniprot/Q3SZV0">http://www.uniprot.org/uniprot/Q3SZV0</a>
Ras-related protein Rab-17	<b>51</b>	23.7	9	<b>Q9H0T7</b>	<a href="http://www.uniprot.org/uniprot/Q9H0T7">http://www.uniprot.org/uniprot/Q9H0T7</a>
Transmembrane and coiled-coil domain-containing protein 5A	<b>52</b>	34.5	5	<b>Q8N6Q1</b>	<a href="http://www.uniprot.org/uniprot/Q8N6Q1">http://www.uniprot.org/uniprot/Q8N6Q1</a>
Inosine triphosphate pyrophosphatase	<b>56</b>	21.8	6	<b>Q9BY32</b>	<a href="http://www.uniprot.org/uniprot/Q9BY32">http://www.uniprot.org/uniprot/Q9BY32</a>
Vacuolar protein sorting-associated protein 29	<b>51</b>	20.7	6	<b>Q9UBQ0</b>	<a href="http://www.uniprot.org/uniprot/Q9UBQ0">http://www.uniprot.org/uniprot/Q9UBQ0</a>
AP-3 complex subunit mu-2	<b>66</b>	47.2	8	<b>P53677</b>	<a href="http://www.uniprot.org/uniprot/P53677">http://www.uniprot.org/uniprot/P53677</a>
Ras and EF-hand domain-containing protein homolog	<b>60</b>	71.3	10	<b>Q5RI75</b>	<a href="http://www.uniprot.org/uniprot/Q5RI75">http://www.uniprot.org/uniprot/Q5RI75</a>
Protein C19orf12 homolog	<b>65</b>	15.1	6	<b>Q8WUR0</b>	<a href="http://www.uniprot.org/uniprot/Q8WUR0">http://www.uniprot.org/uniprot/Q8WUR0</a>
Serine palmitoyltransferase 2	<b>54</b>	63.6	9	<b>O15270</b>	<a href="http://www.uniprot.org/uniprot/O15270">http://www.uniprot.org/uniprot/O15270</a>
Thioredoxin, mitochondrial	<b>53</b>	18.4	4	<b>P97493</b>	<a href="http://www.uniprot.org/uniprot/P97493">http://www.uniprot.org/uniprot/P97493</a>
Vesicle transport protein USE1	<b>57</b>	30.8	9	<b>Q9CQ56</b>	<a href="http://www.uniprot.org/uniprot/Q9CQ56">http://www.uniprot.org/uniprot/Q9CQ56</a>
Far upstream element-binding protein 3 O	<b>55</b>	61.9	7	<b>Q96I24</b>	<a href="http://www.uniprot.org/uniprot/Q96I24">http://www.uniprot.org/uniprot/Q96I24</a>
Nesprin-3	<b>51</b>	112.3	20	<b>Q4FZC9</b>	<a href="http://www.uniprot.org/uniprot/Q4FZC9">http://www.uniprot.org/uniprot/Q4FZC9</a>
Zinc finger protein 532	<b>50</b>	112.2	15	<b>Q6NXX2</b>	<a href="http://www.uniprot.org/uniprot/Q6NXX2">http://www.uniprot.org/uniprot/Q6NXX2</a>
Hemoglobin subunit epsilon (fragment)	<b>50</b>	15.6	6	<b>O13071</b>	<a href="http://www.uniprot.org/uniprot/O13071">http://www.uniprot.org/uniprot/O13071</a>
Vimentin	<b>60</b>	53.7	15	<b>P20152</b>	<a href="http://www.uniprot.org/uniprot/P20152">http://www.uniprot.org/uniprot/P20152</a>
Centromere protein H	<b>61</b>	28	7	<b>Q3T0L1</b>	<a href="http://www.uniprot.org/uniprot/Q3T0L1">http://www.uniprot.org/uniprot/Q3T0L1</a>
Potassium/sodium hyperpolarization-activated cyclic nucleotide-gated channel 1	<b>60</b>	93.4	11	<b>Q9MZS1</b>	<a href="http://www.uniprot.org/uniprot/Q9MZS1">http://www.uniprot.org/uniprot/Q9MZS1</a>
Pleckstrin homology-like domain family A member 3	<b>59</b>	13.9	5	<b>Q9WV95</b>	<a href="http://www.uniprot.org/uniprot/Q9WV95">http://www.uniprot.org/uniprot/Q9WV95</a>
Zinc finger and SCAN domain-containing protein 5A	<b>71</b>	56.9	11	<b>Q9BUG6</b>	<a href="http://www.uniprot.org/uniprot/Q9BUG6">http://www.uniprot.org/uniprot/Q9BUG6</a>
Signal recognition particle receptor subunit beta	<b>55</b>	29.7	7	<b>Q4FZX7</b>	<a href="http://www.uniprot.org/uniprot/Q4FZX7">http://www.uniprot.org/uniprot/Q4FZX7</a>
Tetratricopeptide repeat protein 6	<b>53</b>	60	8	<b>Q86TZ1</b>	<a href="http://www.uniprot.org/uniprot/Q86TZ1">http://www.uniprot.org/uniprot/Q86TZ1</a>
Protein phosphatase 1 regulatory subunit 36	<b>53</b>	47.7	8	<b>D3Z0R2</b>	<a href="http://www.uniprot.org/uniprot/D3Z0R2">http://www.uniprot.org/uniprot/D3Z0R2</a>
Oculomedin	<b>53</b>	5.3	4	<b>Q9Y5M6</b>	<a href="http://www.uniprot.org/uniprot/Q9Y5M6">http://www.uniprot.org/uniprot/Q9Y5M6</a>



Interleukin-2	<b>57</b>	17.8	6	<b>Q95KP3</b>	<a href="http://www.uniprot.org/uniprot/Q95KP3">http://www.uniprot.org/uniprot/Q95KP3</a>
NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 2	<b>54</b>	11	5	<b>O43678</b>	<a href="http://www.uniprot.org/uniprot/O43678">http://www.uniprot.org/uniprot/O43678</a>
Ras-related protein Rab-36	<b>57</b>	36.8	7	<b>O95755</b>	<a href="http://www.uniprot.org/uniprot/O95755">http://www.uniprot.org/uniprot/O95755</a>
ATP-dependent 6-phosphofructokinase, liver type	<b>51</b>	58.8	10	<b>P17858</b>	<a href="http://www.uniprot.org/uniprot/P17858">http://www.uniprot.org/uniprot/P17858</a>
AarF domain-containing protein kinase 4	<b>52</b>	59.6	6	<b>Q6AY19</b>	<a href="http://www.uniprot.org/uniprot/Q6AY19">http://www.uniprot.org/uniprot/Q6AY19</a>
Fidgetin-like protein 1	<b>61</b>	74.8	12	<b>Q6PIW4</b>	<a href="http://www.uniprot.org/uniprot/Q6PIW4">http://www.uniprot.org/uniprot/Q6PIW4</a>
Neutrophil cytosol factor 4	<b>61</b>	39.1	8	<b>Q15080</b>	<a href="http://www.uniprot.org/uniprot/Q15080">http://www.uniprot.org/uniprot/Q15080</a>
Glycine amidinotransferase, mitochondrial	<b>61</b>	48.8	4	<b>Q9D964</b>	<a href="http://www.uniprot.org/uniprot/Q9D964">http://www.uniprot.org/uniprot/Q9D964</a>
Uncharacterized protein C1orf168 homolog	<b>62</b>	82.8	9	<b>A2A995</b>	<a href="http://www.uniprot.org/uniprot/A2A995">http://www.uniprot.org/uniprot/A2A995</a>
Haptoglobin	<b>51</b>	36.9	5	<b>P19006</b>	<a href="http://www.uniprot.org/uniprot/P19006">http://www.uniprot.org/uniprot/P19006</a>
F-box/LRR-repeat protein 8	<b>53</b>	41.4	5	<b>Q96CD0</b>	<a href="http://www.uniprot.org/uniprot/Q96CD0">http://www.uniprot.org/uniprot/Q96CD0</a>
Desmin	<b>45</b>	53.3	9	<b>Q5XFN2</b>	<a href="http://www.uniprot.org/uniprot/Q5XFN2">http://www.uniprot.org/uniprot/Q5XFN2</a>
Torsin-4A	<b>52</b>	47.3	6	<b>Q9NXH8</b>	<a href="http://www.uniprot.org/uniprot/Q9NXH8">http://www.uniprot.org/uniprot/Q9NXH8</a>
OTU domain-containing protein 6B	<b>61</b>	34	6	<b>Q8N6M0</b>	<a href="http://www.uniprot.org/uniprot/Q8N6M0">http://www.uniprot.org/uniprot/Q8N6M0</a>
39S ribosomal protein L2, mitochondrial	<b>63</b>	33.5	9	<b>Q2TA12</b>	<a href="http://www.uniprot.org/uniprot/Q2TA12">http://www.uniprot.org/uniprot/Q2TA12</a>
Telomerase reverse transcriptase	<b>61</b>	128.6	8	<b>O14746</b>	<a href="http://www.uniprot.org/uniprot/O14746">http://www.uniprot.org/uniprot/O14746</a>
Solute carrier family 15 member 1	<b>48</b>	79.3	5	<b>Q8WMX5</b>	<a href="http://www.uniprot.org/uniprot/Q8WMX5">http://www.uniprot.org/uniprot/Q8WMX5</a>
Tripartite motif-containing protein 75	<b>59</b>	54.4	7	<b>Q3UWZ0</b>	<a href="http://www.uniprot.org/uniprot/Q3UWZ0">http://www.uniprot.org/uniprot/Q3UWZ0</a>
Probable ATP-dependent RNA helicase DDX28	<b>59</b>	59.8	6	<b>Q9NUL7</b>	<a href="http://www.uniprot.org/uniprot/Q9NUL7">http://www.uniprot.org/uniprot/Q9NUL7</a>
Glutamyl-tRNA(Gln) amidotransferase subunit C, mitochondrial	<b>57</b>	17.6	4	<b>E2RK33</b>	<a href="http://www.uniprot.org/uniprot/E2RK33">http://www.uniprot.org/uniprot/E2RK33</a>
Cap-specific mRNA (nucleoside-2'-O-)-methyltransferase 1	<b>59</b>	96.6	12	<b>Q9DBC3</b>	<a href="http://www.uniprot.org/uniprot/Q9DBC3">http://www.uniprot.org/uniprot/Q9DBC3</a>
Protein MB21D2	<b>65</b>	49	8	<b>Q8C525</b>	<a href="http://www.uniprot.org/uniprot/Q8C525">http://www.uniprot.org/uniprot/Q8C525</a>
Desmin	<b>29</b>	53.3	3	<b>Q5XFN2</b>	<a href="http://www.uniprot.org/uniprot/Q5XFN2">http://www.uniprot.org/uniprot/Q5XFN2</a>
NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 2	<b>60</b>	11	5	<b>O43678</b>	<a href="http://www.uniprot.org/uniprot/O43678">http://www.uniprot.org/uniprot/O43678</a>
Oculomedin	<b>46</b>	5.3	4	<b>Q9Y5M6</b>	<a href="http://www.uniprot.org/uniprot/Q9Y5M6">http://www.uniprot.org/uniprot/Q9Y5M6</a>
Glycogen phosphorylase, brain form	<b>52</b>	96.9	12	<b>Q5MIB6</b>	<a href="http://www.uniprot.org/uniprot/Q5MIB6">http://www.uniprot.org/uniprot/Q5MIB6</a>
V-set and transmembrane domain-containing protein 2B	<b>62</b>	30.3	5	<b>Q9JME9</b>	<a href="http://www.uniprot.org/uniprot/Q9JME9">http://www.uniprot.org/uniprot/Q9JME9</a>
Microsomal triglyceride transfer protein large subunit	<b>65</b>	99.6	11	<b>P55156</b>	<a href="http://www.uniprot.org/uniprot/P55156">http://www.uniprot.org/uniprot/P55156</a>
E3 ubiquitin-protein ligase ARIH2	<b>56</b>	59.3	8	<b>Q9Z1K6</b>	<a href="http://www.uniprot.org/uniprot/Q9Z1K6">http://www.uniprot.org/uniprot/Q9Z1K6</a>
Ubiquitin carboxyl-terminal hydrolase 37	<b>58</b>	111	6	<b>Q86T82</b>	<a href="http://www.uniprot.org/uniprot/Q86T82">http://www.uniprot.org/uniprot/Q86T82</a>
Putative homeodomain	<b>53</b>	88	9	<b>Q9UMS5</b>	<a href="http://www.uniprot.org/uniprot/Q9UMS5">http://www.uniprot.org/uniprot/Q9UMS5</a>

transcription factor 1					
Junction plakoglobin	<b>53</b>	82.4	6	<b>P14923</b>	<a href="http://www.uniprot.org/uniprot/P14923">http://www.uniprot.org/uniprot/P14923</a>
Pericentriolar material 1 protein	<b>52</b>	230	10	<b>Q15154</b>	<a href="http://www.uniprot.org/uniprot/Q15154">http://www.uniprot.org/uniprot/Q15154</a>
43 kDa receptor-associated protein of the synapse	<b>60</b>	47.6	13	<b>P12672</b>	<a href="http://www.uniprot.org/uniprot/P12672">http://www.uniprot.org/uniprot/P12672</a>
Desmin	<b>45</b>	53.3	6	<b>Q5XFN2</b>	<a href="http://www.uniprot.org/uniprot/Q5XFN2">http://www.uniprot.org/uniprot/Q5XFN2</a>
Probable tubulin polyglutamylase TTL1	<b>63</b>	49.4	10	<b>O95922</b>	<a href="http://www.uniprot.org/uniprot/O95922">http://www.uniprot.org/uniprot/O95922</a>
Ubiquitin carboxyl-terminal hydrolase 48	<b>61</b>	121.1	8	<b>Q86UV5</b>	<a href="http://www.uniprot.org/uniprot/Q86UV5">http://www.uniprot.org/uniprot/Q86UV5</a>
Parvalbumin alpha	<b>62</b>	12.1	7	<b>P20472</b>	<a href="http://www.uniprot.org/uniprot/P20472">http://www.uniprot.org/uniprot/P20472</a>
Putative fatty acid-binding protein 5-like protein 3	<b>51</b>	11.5	6	<b>A8MUU1</b>	<a href="http://www.uniprot.org/uniprot/A8MUU1">http://www.uniprot.org/uniprot/A8MUU1</a>
Tyrosine-protein phosphatase non-receptor type 6	<b>49</b>	70	11	<b>P81718</b>	<a href="http://www.uniprot.org/uniprot/P81718">http://www.uniprot.org/uniprot/P81718</a>
Zinc finger protein 624	<b>65</b>	102.5	13	<b>Q9P2J8</b>	<a href="http://www.uniprot.org/uniprot/Q9P2J8">http://www.uniprot.org/uniprot/Q9P2J8</a>
Zinc finger and SCAN domain-containing protein 5A	<b>65</b>	56.9	11	<b>Q9BUG6</b>	<a href="http://www.uniprot.org/uniprot/Q9BUG6">http://www.uniprot.org/uniprot/Q9BUG6</a>
Actin-related protein 2/3 complex subunit 3	<b>51</b>	20.8	7	<b>Q3T035</b>	<a href="http://www.uniprot.org/uniprot/Q3T035">http://www.uniprot.org/uniprot/Q3T035</a>
FSD1-like protein	<b>56</b>	60.2	9	<b>Q9BXM9</b>	<a href="http://www.uniprot.org/uniprot/Q9BXM9">http://www.uniprot.org/uniprot/Q9BXM9</a>
UPF0585 protein C16orf13	<b>54</b>	22.8	7	<b>Q96S19</b>	<a href="http://www.uniprot.org/uniprot/Q96S19">http://www.uniprot.org/uniprot/Q96S19</a>
HAUS augmin-like complex subunit 6	<b>60</b>	109.6	12	<b>Q7Z4H7</b>	<a href="http://www.uniprot.org/uniprot/Q7Z4H7">http://www.uniprot.org/uniprot/Q7Z4H7</a>
FSD1-like protein	<b>62</b>	60.2	9	<b>Q9BXM9</b>	<a href="http://www.uniprot.org/uniprot/Q9BXM9">http://www.uniprot.org/uniprot/Q9BXM9</a>
Protocadherin alpha-C2	<b>62</b>	110	8	<b>Q9Y5I4</b>	<a href="http://www.uniprot.org/uniprot/Q9Y5I4">http://www.uniprot.org/uniprot/Q9Y5I4</a>
Ral guanine nucleotide dissociation stimulator-like 2	<b>63</b>	84.5	7	<b>Q5TJE5</b>	<a href="http://www.uniprot.org/uniprot/Q5TJE5">http://www.uniprot.org/uniprot/Q5TJE5</a>
Cilia- and flagella-associated protein 99	<b>57</b>	52.5	7	<b>D6REC4</b>	<a href="http://www.uniprot.org/uniprot/D6REC4">http://www.uniprot.org/uniprot/D6REC4</a>
Ras-related protein Rab-39A	<b>51</b>	25.4	5	<b>Q14964</b>	<a href="http://www.uniprot.org/uniprot/Q14964">http://www.uniprot.org/uniprot/Q14964</a>
Protein FAM229B	<b>63</b>	8.9	5	<b>Q4G0N7</b>	<a href="http://www.uniprot.org/uniprot/Q4G0N7">http://www.uniprot.org/uniprot/Q4G0N7</a>
Zinc finger protein ZFP69B	<b>55</b>	62.8	6	<b>Q9UJL9</b>	<a href="http://www.uniprot.org/uniprot/Q9UJL9">http://www.uniprot.org/uniprot/Q9UJL9</a>
NAD-dependent protein deacetylase sirtuin-7	<b>53</b>	45.7	7	<b>B2RZ55</b>	<a href="http://www.uniprot.org/uniprot/B2RZ55">http://www.uniprot.org/uniprot/B2RZ55</a>
Zona pellucida sperm-binding protein 2	<b>44</b>	81.1	8	<b>P47983</b>	<a href="http://www.uniprot.org/uniprot/P47983">http://www.uniprot.org/uniprot/P47983</a>
Peroxiredoxin-1	<b>61</b>	22.3	7	<b>Q06830</b>	<a href="http://www.uniprot.org/uniprot/Q06830">http://www.uniprot.org/uniprot/Q06830</a>
Transcriptional repressor NF-X1	<b>54</b>	130	10	<b>Q12986</b>	<a href="http://www.uniprot.org/uniprot/Q12986">http://www.uniprot.org/uniprot/Q12986</a>
Phosphatidylinositol 4-phosphate 5-kinase type-1 alpha	<b>62</b>	60.8	12	<b>P70182</b>	<a href="http://www.uniprot.org/uniprot/P70182">http://www.uniprot.org/uniprot/P70182</a>
Transcriptional repressor NF-X1	<b>53</b>	130	10	<b>P70182</b>	<a href="http://www.uniprot.org/uniprot/P70182">http://www.uniprot.org/uniprot/P70182</a>
Tyrosine-protein kinase receptor TYRO3	<b>52</b>	97.2	8	<b>P55144</b>	<a href="http://www.uniprot.org/uniprot/P55144">http://www.uniprot.org/uniprot/P55144</a>
Ras-related protein Rab-17	<b>53</b>	23.7	5	<b>Q9H0T7</b>	<a href="http://www.uniprot.org/uniprot/Q9H0T7">http://www.uniprot.org/uniprot/Q9H0T7</a>
Thiamine-triphosphatase	<b>54</b>	25.7	9	<b>Q9BU02</b>	<a href="http://www.uniprot.org/uniprot/Q9BU02">http://www.uniprot.org/uniprot/Q9BU02</a>
Dual-specificity phosphatase 28	<b>52</b>	18.7	7	<b>Q4G0W2</b>	<a href="http://www.uniprot.org/uniprot/Q4G0W2">http://www.uniprot.org/uniprot/Q4G0W2</a>
Peptidyl-prolyl cis-trans	<b>57</b>	41.1	8	<b>Q9CR16</b>	<a href="http://www.uniprot.org/uniprot/Q9CR16">http://www.uniprot.org/uniprot/Q9CR16</a>

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Artemin	<b>51</b>	24.2	6	<b>Q6AYE8</b>	<a href="http://www.uniprot.org/uniprot/Q6AYE8">http://www.uniprot.org/uniprot/Q6AYE8</a>
Zinc finger and SCAN domain-containing protein 5A	<b>77</b>	56.9	7	<b>Q9BUG6</b>	<a href="http://www.uniprot.org/uniprot/Q9BUG6">http://www.uniprot.org/uniprot/Q9BUG6</a>
SLAIN motif-containing protein 2	<b>50</b>	62.6	7	<b>Q8CI08</b>	<a href="http://www.uniprot.org/uniprot/Q8CI08">http://www.uniprot.org/uniprot/Q8CI08</a>
Adenylyl cyclase-associated protein 2	<b>52</b>	53.2	7	<b>P52481</b>	<a href="http://www.uniprot.org/uniprot/P52481">http://www.uniprot.org/uniprot/P52481</a>
Acylphosphatase-2	<b>51</b>	11.2	6	<b>P00818</b>	<a href="http://www.uniprot.org/uniprot/P00818">http://www.uniprot.org/uniprot/P00818</a>
Centriolar coiled-coil protein of 110 kDa	<b>51</b>	11.9	14	<b>Q7TSH4</b>	<a href="http://www.uniprot.org/uniprot/Q7TSH4">http://www.uniprot.org/uniprot/Q7TSH4</a>
Zinc finger and SCAN domain-containing protein 5A	<b>51</b>	56.9	8	<b>Q9BUG6</b>	<a href="http://www.uniprot.org/uniprot/Q9BUG6">http://www.uniprot.org/uniprot/Q9BUG6</a>
Fibronectin type 3 and ankyrin repeat domains protein 1	<b>54</b>	38.6	6	<b>Q6B858</b>	<a href="http://www.uniprot.org/uniprot/Q6B858">http://www.uniprot.org/uniprot/Q6B858</a>
Hemoglobin subunit beta	<b>60</b>	16.3	8	<b>Q6B858</b>	<a href="http://www.uniprot.org/uniprot/Q6B858">http://www.uniprot.org/uniprot/Q6B858</a>
Ankyrin repeat and death domain-containing protein 1A	<b>51</b>	57.9	10	<b>Q495B1</b>	<a href="http://www.uniprot.org/uniprot/Q495B1">http://www.uniprot.org/uniprot/Q495B1</a>
Protein-arginine deiminase type-4	<b>63</b>	75.1	11	<b>Q9Z183</b>	<a href="http://www.uniprot.org/uniprot/Q9Z183">http://www.uniprot.org/uniprot/Q9Z183</a>
Actin-binding Rho-activating protein	<b>60</b>	43	10	<b>Q8BUZ1</b>	<a href="http://www.uniprot.org/uniprot/Q8BUZ1">http://www.uniprot.org/uniprot/Q8BUZ1</a>
Myotrophin	<b>51</b>	13.1	6	<b>Q3T0F7</b>	<a href="http://www.uniprot.org/uniprot/Q3T0F7">http://www.uniprot.org/uniprot/Q3T0F7</a>
Ras GTPase-activating protein 2	<b>52</b>	97.8	9	<b>P58069</b>	<a href="http://www.uniprot.org/uniprot/P58069">http://www.uniprot.org/uniprot/P58069</a>
Cleavage and polyadenylation specificity factor subunit 1	<b>54</b>	162.4	9	<b>Q10569</b>	<a href="http://www.uniprot.org/uniprot/Q10569">http://www.uniprot.org/uniprot/Q10569</a>
Cholecystokinin	<b>55</b>	12.9	5	<b>P41520</b>	<a href="http://www.uniprot.org/uniprot/P41520">http://www.uniprot.org/uniprot/P41520</a>
Cortexin-2	<b>55</b>	9.2	4	<b>Q3URE8</b>	<a href="http://www.uniprot.org/uniprot/Q3URE8">http://www.uniprot.org/uniprot/Q3URE8</a>
Uncharacterized protein C12orf60	<b>53</b>	27.7	7	<b>Q5U649</b>	<a href="http://www.uniprot.org/uniprot/Q5U649">http://www.uniprot.org/uniprot/Q5U649</a>
Tetratricopeptide repeat protein 36	<b>66</b>	20.7	9	<b>Q3SZV0</b>	<a href="http://www.uniprot.org/uniprot/Q3SZV0">http://www.uniprot.org/uniprot/Q3SZV0</a>
Coiled-coil domain-containing protein 81	<b>64</b>	76.8	18	<b>Q6ZN84</b>	<a href="http://www.uniprot.org/uniprot/Q6ZN84">http://www.uniprot.org/uniprot/Q6ZN84</a>
Tyrosine-protein kinase Fer	<b>63</b>	95.1	23	<b>Q9TTY2</b>	<a href="http://www.uniprot.org/uniprot/Q9TTY2">http://www.uniprot.org/uniprot/Q9TTY2</a>
Tetratricopeptide repeat protein 36	<b>59</b>	20.7	8	<b>Q3SZV0</b>	<a href="http://www.uniprot.org/uniprot/Q3SZV0">http://www.uniprot.org/uniprot/Q3SZV0</a>
Ras-related protein Rab-36	<b>64</b>	36.8	10	<b>O95755</b>	<a href="http://www.uniprot.org/uniprot/O95755">http://www.uniprot.org/uniprot/O95755</a>
Rab GDP dissociation inhibitor beta	<b>66</b>	50.8	8	<b>O97556</b>	<a href="http://www.uniprot.org/uniprot/O97556">http://www.uniprot.org/uniprot/O97556</a>
Centromere/kinetochore protein zw10 homolog	<b>63</b>	89.6	15	<b>O43264</b>	<a href="http://www.uniprot.org/uniprot/O43264">http://www.uniprot.org/uniprot/O43264</a>
Parvalbumin alpha	<b>62</b>	12.1	10	<b>P20472</b>	<a href="http://www.uniprot.org/uniprot/P20472">http://www.uniprot.org/uniprot/P20472</a>
Complement C1q subcomponent subunit B	<b>62</b>	26.6	8	<b>Q2KIV9</b>	<a href="http://www.uniprot.org/uniprot/Q2KIV9">http://www.uniprot.org/uniprot/Q2KIV9</a>
Double-stranded RNA-binding protein Staufen homolog 2	<b>68</b>	62.8	10	<b>Q9NUL3</b>	<a href="http://www.uniprot.org/uniprot/Q9NUL3">http://www.uniprot.org/uniprot/Q9NUL3</a>
CD209 antigen-like protein B	<b>66</b>	37.7	7	<b>Q8CJ91</b>	<a href="http://www.uniprot.org/uniprot/Q8CJ91">http://www.uniprot.org/uniprot/Q8CJ91</a>
SRC kinase signaling inhibitor 1	<b>66</b>	112.7	11	<b>Q9C0H9</b>	<a href="http://www.uniprot.org/uniprot/Q9C0H9">http://www.uniprot.org/uniprot/Q9C0H9</a>
Oxidoreductase HTATIP2	<b>72</b>	27.4	7	<b>A2T7G9</b>	<a href="http://www.uniprot.org/uniprot/A2T7G9">http://www.uniprot.org/uniprot/A2T7G9</a>



Tyrosine--tRNA ligase, cytoplasmic	<b>51</b>	59.4	12	<b>Q4KM49</b>	<a href="http://www.uniprot.org/uniprot/Q4KM49">http://www.uniprot.org/uniprot/Q4KM49</a>
Zinc finger protein 101	<b>50</b>	51.9	10	<b>Q8IZC7</b>	<a href="http://www.uniprot.org/uniprot/Q8IZC7">http://www.uniprot.org/uniprot/Q8IZC7</a>
60S ribosomal protein L37	<b>53</b>	11.3	7	<b>P79244</b>	<a href="http://www.uniprot.org/uniprot/P79244">http://www.uniprot.org/uniprot/P79244</a>
Zinc finger protein 621	<b>52</b>	50.2	6	<b>Q6ZSS3</b>	<a href="http://www.uniprot.org/uniprot/Q6ZSS3">http://www.uniprot.org/uniprot/Q6ZSS3</a>
E3 ubiquitin-protein ligase RNF152	<b>50</b>	23.1	5	<b>D2H6Z0</b>	<a href="http://www.uniprot.org/uniprot/D2H6Z0">http://www.uniprot.org/uniprot/D2H6Z0</a>
Ras-related protein Rab-36	<b>68</b>	36.8	9	<b>O95755</b>	<a href="http://www.uniprot.org/uniprot/O95755">http://www.uniprot.org/uniprot/O95755</a>
Prolactin	<b>64</b>	26.1	7	<b>Q9QZL1</b>	<a href="http://www.uniprot.org/uniprot/Q9QZL1">http://www.uniprot.org/uniprot/Q9QZL1</a>
Vacuolar ATPase assembly integral membrane protein Vma21	<b>50</b>	44.4	4	<b>Q78T54</b>	<a href="http://www.uniprot.org/uniprot/Q78T54">http://www.uniprot.org/uniprot/Q78T54</a>
Hemoglobin subunit beta	<b>69</b>	16.3	10	<b>P02073</b>	<a href="http://www.uniprot.org/uniprot/P02073">http://www.uniprot.org/uniprot/P02073</a>
Sterile alpha and TIR motif-containing protein 1	<b>60</b>	80.8	12	<b>I3L5V6</b>	<a href="http://www.uniprot.org/uniprot/I3L5V6">http://www.uniprot.org/uniprot/I3L5V6</a>
39S ribosomal protein L50, mitochondrial	<b>62</b>	18.3	6	<b>Q8VDT9</b>	<a href="http://www.uniprot.org/uniprot/Q8VDT9">http://www.uniprot.org/uniprot/Q8VDT9</a>
Interferon regulatory factor 2-binding protein 1	<b>66</b>	62.6	14	<b>Q8IU81</b>	<a href="http://www.uniprot.org/uniprot/Q8IU81">http://www.uniprot.org/uniprot/Q8IU81</a>
FUN14 domain-containing protein 2	<b>50</b>	16.6	5	<b>Q9D6K8</b>	<a href="http://www.uniprot.org/uniprot/Q9D6K8">http://www.uniprot.org/uniprot/Q9D6K8</a>
Potassium voltage-gated channel subfamily B member 1	<b>62</b>	96.7	13	<b>Q14721</b>	<a href="http://www.uniprot.org/uniprot/Q14721">http://www.uniprot.org/uniprot/Q14721</a>
Collagen alpha-2(I) chain	<b>64</b>	129.8	9	<b>O46392</b>	<a href="http://www.uniprot.org/uniprot/O46392">http://www.uniprot.org/uniprot/O46392</a>
Protein AAR2 homolog	<b>61</b>	43.9	9	<b>Q08DJ7</b>	<a href="http://www.uniprot.org/uniprot/Q08DJ7">http://www.uniprot.org/uniprot/Q08DJ7</a>
Aurora kinase C	<b>65</b>	35.9	13	<b>Q9UQB9</b>	<a href="http://www.uniprot.org/uniprot/Q9UQB9">http://www.uniprot.org/uniprot/Q9UQB9</a>
NAD-dependent protein deacetylase sirtuin-7	<b>58</b>	45.7	14	<b>Q8BKJ9</b>	<a href="http://www.uniprot.org/uniprot/Q8BKJ9">http://www.uniprot.org/uniprot/Q8BKJ9</a>
Peroxiredoxin-1	<b>56</b>	22.3	9	<b>Q06830</b>	<a href="http://www.uniprot.org/uniprot/Q06830">http://www.uniprot.org/uniprot/Q06830</a>
Perilipin-3	<b>52</b>	47.1	7	<b>Q5RAV8</b>	<a href="http://www.uniprot.org/uniprot/Q5RAV8">http://www.uniprot.org/uniprot/Q5RAV8</a>
Protein kish-A	<b>52</b>	8.3	4	<b>Q148I3</b>	<a href="http://www.uniprot.org/uniprot/Q148I3">http://www.uniprot.org/uniprot/Q148I3</a>
Ras-related protein Rab-36	<b>50</b>	36.8	6	<b>O95755</b>	<a href="http://www.uniprot.org/uniprot/O95755">http://www.uniprot.org/uniprot/O95755</a>
Succinyl-CoA ligase [ADP-forming] subunit beta, mitochondrial	<b>62</b>	50.3	12	<b>Q4R517</b>	<a href="http://www.uniprot.org/uniprot/Q4R517">http://www.uniprot.org/uniprot/Q4R517</a>
Glycogen phosphorylase, liver form	<b>51</b>	97.9	12	<b>P09811</b>	<a href="http://www.uniprot.org/uniprot/P09811">http://www.uniprot.org/uniprot/P09811</a>
Integrin alpha-11	<b>50</b>	134.1	13	<b>P61622</b>	<a href="http://www.uniprot.org/uniprot/P61622">http://www.uniprot.org/uniprot/P61622</a>
Neuropathy target esterase	<b>63</b>	150.9	17	<b>Q3TRM4</b>	<a href="http://www.uniprot.org/uniprot/Q3TRM4">http://www.uniprot.org/uniprot/Q3TRM4</a>
Oncostatin-M	<b>61</b>	28.8	9	<b>P13725</b>	<a href="http://www.uniprot.org/uniprot/P13725">http://www.uniprot.org/uniprot/P13725</a>
Vesicle transport protein USE1	<b>63</b>	30.8	9	<b>Q9CQ56</b>	<a href="http://www.uniprot.org/uniprot/Q9CQ56">http://www.uniprot.org/uniprot/Q9CQ56</a>
Testicular haploid expressed gene protein	<b>50</b>	43.8	8	<b>Q5XHX8</b>	<a href="http://www.uniprot.org/uniprot/Q5XHX8">http://www.uniprot.org/uniprot/Q5XHX8</a>
Serine/threonine-protein phosphatase 6 catalytic subunit	<b>55</b>	35.8	7	<b>O00743</b>	<a href="http://www.uniprot.org/uniprot/O00743">http://www.uniprot.org/uniprot/O00743</a>
E3 ubiquitin-protein ligase MARCH8	<b>53</b>	33.7	5	<b>Q0VD59</b>	<a href="http://www.uniprot.org/uniprot/Q0VD59">http://www.uniprot.org/uniprot/Q0VD59</a>
Phospholipase A2	<b>25</b>	17.0	3	<b>P06596</b>	<a href="http://www.uniprot.org/uniprot/P06596">http://www.uniprot.org/uniprot/P06596</a>
Protein polyglycyclase TLL10	<b>55</b>	80.2	13	<b>A4Q9F3</b>	<a href="http://www.uniprot.org/uniprot/A4Q9F3">http://www.uniprot.org/uniprot/A4Q9F3</a>
T-complex protein 1 subunit gamma	<b>58</b>	61.1	13	<b>Q3T0K2</b>	<a href="http://www.uniprot.org/uniprot/Q3T0K2">http://www.uniprot.org/uniprot/Q3T0K2</a>

Vimentin (fragment)	<b>57</b>	51.9	14	<b>P48670</b>	<a href="http://www.uniprot.org/uniprot/P48670">http://www.uniprot.org/uniprot/P48670</a>
Ras-related protein Rab-36	<b>61</b>	36.8	9	<b>O95755</b>	<a href="http://www.uniprot.org/uniprot/O95755">http://www.uniprot.org/uniprot/O95755</a>
Interferon-induced protein with tetratricopeptide repeats 1	<b>54</b>	55.8	10	<b>Q4R5F5</b>	<a href="http://www.uniprot.org/uniprot/Q4R5F5">http://www.uniprot.org/uniprot/Q4R5F5</a>
Uncharacterized protein C1orf186	<b>52</b>	19.6	4	<b>Q6ZWK4</b>	<a href="http://www.uniprot.org/uniprot/Q6ZWK4">http://www.uniprot.org/uniprot/Q6ZWK4</a>
Isocitrate dehydrogenase [NADP] cytoplasmic	<b>51</b>	47.1	7	<b>Q9XSG3</b>	<a href="http://www.uniprot.org/uniprot/Q9XSG3">http://www.uniprot.org/uniprot/Q9XSG3</a>
Dual-specificity phosphatase	<b>51</b>	18.7	5	<b>Q4G0W2</b>	<a href="http://www.uniprot.org/uniprot/Q4G0W2">http://www.uniprot.org/uniprot/Q4G0W2</a>
Methylmalonic aciduria type A protein, mitochondrial	<b>50</b>	46.9	6	<b>Q8IVH4</b>	<a href="http://www.uniprot.org/uniprot/Q8IVH4">http://www.uniprot.org/uniprot/Q8IVH4</a>
Rab GDP dissociation inhibitor beta	<b>47</b>	50.8	8	<b>O97556</b>	<a href="http://www.uniprot.org/uniprot/O97556">http://www.uniprot.org/uniprot/O97556</a>
Vacuolar protein sorting-associated protein 4B	<b>62</b>	49.5	14	<b>Q5R658</b>	<a href="http://www.uniprot.org/uniprot/Q5R658">http://www.uniprot.org/uniprot/Q5R658</a>
C-type natriuretic peptide	<b>66</b>	13.5	9	<b>P56283</b>	<a href="http://www.uniprot.org/uniprot/P56283">http://www.uniprot.org/uniprot/P56283</a>
T-complex protein 1 subunit alpha	<b>64</b>	60.8	14	<b>P18279</b>	<a href="http://www.uniprot.org/uniprot/P18279">http://www.uniprot.org/uniprot/P18279</a>
Carboxylesterase 1E	<b>67</b>	61.8	11	<b>Q64176</b>	<a href="http://www.uniprot.org/uniprot/Q64176">http://www.uniprot.org/uniprot/Q64176</a>
Stefin-2	<b>52</b>	11.9	6	<b>P35174</b>	<a href="http://www.uniprot.org/uniprot/P35174">http://www.uniprot.org/uniprot/P35174</a>
Ras-related protein Rab-2B	<b>55</b>	24.5	6	<b>P59279</b>	<a href="http://www.uniprot.org/uniprot/P59279">http://www.uniprot.org/uniprot/P59279</a>
Hemoglobin subunit epsilon (fragment)	<b>53</b>	15.6	5	<b>O13071</b>	<a href="http://www.uniprot.org/uniprot/O13071">http://www.uniprot.org/uniprot/O13071</a>
Adenylosuccinate synthetase lisozyme 1	<b>53</b>	50.5	8	<b>Q8N142</b>	<a href="http://www.uniprot.org/uniprot/Q8N142">http://www.uniprot.org/uniprot/Q8N142</a>
Fragile X mental retardation protein 1 homolog	<b>52</b>	67.3	7	<b>Q5R9B4</b>	<a href="http://www.uniprot.org/uniprot/Q5R9B4">http://www.uniprot.org/uniprot/Q5R9B4</a>
Calponin-1	<b>50</b>	33.4	8	<b>Q2HJ38</b>	<a href="http://www.uniprot.org/uniprot/Q2HJ38">http://www.uniprot.org/uniprot/Q2HJ38</a>
Calponin-1	<b>84</b>	33.4	10	<b>Q9GK38</b>	<a href="http://www.uniprot.org/uniprot/Q9GK38">http://www.uniprot.org/uniprot/Q9GK38</a>
Tyrosine-tRNA ligase, cytoplasmic	<b>58</b>	59.5	9	<b>Q5R8T5</b>	<a href="http://www.uniprot.org/uniprot/Q5R8T5">http://www.uniprot.org/uniprot/Q5R8T5</a>
14 kDa phosphohistidine phosphatase	<b>50</b>	14	4	<b>Q9NRX4</b>	<a href="http://www.uniprot.org/uniprot/Q9NRX4">http://www.uniprot.org/uniprot/Q9NRX4</a>
N-acetylgalactosamine-6-sulfatase	<b>45</b>	58.4	4	<b>Q32KH5</b>	<a href="http://www.uniprot.org/uniprot/Q32KH5">http://www.uniprot.org/uniprot/Q32KH5</a>
Norrin	<b>58</b>	15.6	6	<b>Q2KI78</b>	<a href="http://www.uniprot.org/uniprot/Q2KI78">http://www.uniprot.org/uniprot/Q2KI78</a>
Ribosome biogenesis protein BOP1	<b>50</b>	83.2	8	<b>P97452</b>	<a href="http://www.uniprot.org/uniprot/P97452">http://www.uniprot.org/uniprot/P97452</a>
Sp110 nuclear body protein	<b>51</b>	79.6	7	<b>Q9HB58</b>	<a href="http://www.uniprot.org/uniprot/Q9HB58">http://www.uniprot.org/uniprot/Q9HB58</a>
Endophilin-A2	<b>52</b>	41.7	7	<b>Q62419</b>	<a href="http://www.uniprot.org/uniprot/Q62419">http://www.uniprot.org/uniprot/Q62419</a>
Ras-related protein Rab-36	<b>54</b>	36.8	5	<b>O95755</b>	<a href="http://www.uniprot.org/uniprot/O95755">http://www.uniprot.org/uniprot/O95755</a>
Putative uncharacterized protein C6orf50	<b>53</b>	12.6	5	<b>Q9HD87</b>	<a href="http://www.uniprot.org/uniprot/Q9HD87">http://www.uniprot.org/uniprot/Q9HD87</a>
Cytochrome P450 2C23	<b>52</b>	57	8	<b>P24470</b>	<a href="http://www.uniprot.org/uniprot/P24470">http://www.uniprot.org/uniprot/P24470</a>
Protein MB21D2	<b>52</b>	49	9	<b>Q8C525</b>	<a href="http://www.uniprot.org/uniprot/Q8C525">http://www.uniprot.org/uniprot/Q8C525</a>
Heat shock 70 kDa protein 4L (fragments)	<b>52</b>	23.8	9	<b>P86265</b>	<a href="http://www.uniprot.org/uniprot/P86265">http://www.uniprot.org/uniprot/P86265</a>
Oxidoreductase HTATIP2	<b>53</b>	27.4	6	<b>A2T7G9</b>	<a href="http://www.uniprot.org/uniprot/A2T7G9">http://www.uniprot.org/uniprot/A2T7G9</a>
Ras-related protein Rab-36	<b>56</b>	36.8	6	<b>O95755</b>	<a href="http://www.uniprot.org/uniprot/O95755">http://www.uniprot.org/uniprot/O95755</a>
OTU domain-containing protein 6B	<b>54</b>	34	7	<b>Q8N6M0</b>	<a href="http://www.uniprot.org/uniprot/Q8N6M0">http://www.uniprot.org/uniprot/Q8N6M0</a>

Suppressor of IKBKE 1	<b>53</b>	23.7	8	<b>Q9CPR7</b>	<a href="http://www.uniprot.org/uniprot/Q9CPR7">http://www.uniprot.org/uniprot/Q9CPR7</a>
Myb/SANT-like DNA-binding domain-containing protein 3	<b>64</b>	32.7	8	<b>Q0III0</b>	<a href="http://www.uniprot.org/uniprot/Q0III0">http://www.uniprot.org/uniprot/Q0III0</a>
Ras-related protein Rab-36	<b>52</b>	36.8	8	<b>O95755</b>	<a href="http://www.uniprot.org/uniprot/O95755">http://www.uniprot.org/uniprot/O95755</a>
Calpastatin	<b>50</b>	77.6	11	<b>P27321</b>	<a href="http://www.uniprot.org/uniprot/P27321">http://www.uniprot.org/uniprot/P27321</a>
NACHT, LRR and PYD domains-containing protein 5	<b>62</b>	123.4	21	<b>Q647I9</b>	<a href="http://www.uniprot.org/uniprot/Q647I9">http://www.uniprot.org/uniprot/Q647I9</a>
Mitochondrial uncoupling protein 3	<b>38</b>	34.6	5	<b>Q9N2I9</b>	<a href="http://www.uniprot.org/uniprot/Q9N2I9">http://www.uniprot.org/uniprot/Q9N2I9</a>
Hemoglobin subunit beta	<b>62</b>	16.3	8	<b>P02073</b>	<a href="http://www.uniprot.org/uniprot/P02073">http://www.uniprot.org/uniprot/P02073</a>
Diacylglycerol kinase theta	<b>50</b>	104	11	<b>Q6P5E8</b>	<a href="http://www.uniprot.org/uniprot/Q6P5E8">http://www.uniprot.org/uniprot/Q6P5E8</a>
C-type natriuretic peptide	<b>65</b>	13.5	8	<b>P56283</b>	<a href="http://www.uniprot.org/uniprot/P56283">http://www.uniprot.org/uniprot/P56283</a>
Interleukin-12 receptor subunit beta-2	<b>55</b>	98.5	17	<b>Q99665</b>	<a href="http://www.uniprot.org/uniprot/Q99665">http://www.uniprot.org/uniprot/Q99665</a>
Tumor necrosis factor receptor superfamily member 5	<b>58</b>	33.4	7	<b>P27512</b>	<a href="http://www.uniprot.org/uniprot/P27512">http://www.uniprot.org/uniprot/P27512</a>
Tetratricopeptide repeat protein 34	<b>53</b>	61.8	10	<b>A8MYJ7</b>	<a href="http://www.uniprot.org/uniprot/A8MYJ7">http://www.uniprot.org/uniprot/A8MYJ7</a>
TATA box-binding protein-associated factor RNA polymerase I subunit D	<b>52</b>	33	4	<b>Q5M948</b>	<a href="http://www.uniprot.org/uniprot/Q5M948">http://www.uniprot.org/uniprot/Q5M948</a>
Tetratricopeptide repeat protein 36	<b>65</b>	20.7	9	<b>Q3SZV0</b>	<a href="http://www.uniprot.org/uniprot/Q3SZV0">http://www.uniprot.org/uniprot/Q3SZV0</a>
Nicotin-1	<b>62</b>	24.5	9	<b>Q9BSH3</b>	<a href="http://www.uniprot.org/uniprot/Q9BSH3">http://www.uniprot.org/uniprot/Q9BSH3</a>
Gamma-tubulin complex component 2	<b>51</b>	103.8	22	<b>Q921G8</b>	<a href="http://www.uniprot.org/uniprot/Q921G8">http://www.uniprot.org/uniprot/Q921G8</a>
Calcium/calmodulin-dependent protein kinase II inhibitor 1	<b>52</b>	8.6	6	<b>A7MBG3</b>	<a href="http://www.uniprot.org/uniprot/A7MBG3">http://www.uniprot.org/uniprot/A7MBG3</a>
Tropomodulin-4	<b>53</b>	39.5	7	<b>Q0VC48</b>	<a href="http://www.uniprot.org/uniprot/Q0VC48">http://www.uniprot.org/uniprot/Q0VC48</a>
Protein THEM6	<b>51</b>	24	6	<b>Q5XIE1</b>	<a href="http://www.uniprot.org/uniprot/Q5XIE1">http://www.uniprot.org/uniprot/Q5XIE1</a>
F-box/SPRY domain-containing protein 1	<b>55</b>	31.1	7	<b>Q8K3B1</b>	<a href="http://www.uniprot.org/uniprot/Q8K3B1">http://www.uniprot.org/uniprot/Q8K3B1</a>
Actin-like protein 7B	<b>52</b>	45.9	9	<b>Q9Y614</b>	<a href="http://www.uniprot.org/uniprot/Q9Y614">http://www.uniprot.org/uniprot/Q9Y614</a>
Kinase suppressor of Ras 2	<b>56</b>	110	20	<b>Q3UVC0</b>	<a href="http://www.uniprot.org/uniprot/Q3UVC0">http://www.uniprot.org/uniprot/Q3UVC0</a>
Cytospin-A	<b>50</b>	125	17	<b>Q2KNA0</b>	<a href="http://www.uniprot.org/uniprot/Q2KNA0">http://www.uniprot.org/uniprot/Q2KNA0</a>
Uridine 5'-monophosphate synthase	<b>51</b>	52.6	8	<b>P11172</b>	<a href="http://www.uniprot.org/uniprot/P11172">http://www.uniprot.org/uniprot/P11172</a>
Coiled-coil domain-containing protein 25	<b>50</b>	24.6	8	<b>Q78PG9</b>	<a href="http://www.uniprot.org/uniprot/Q78PG9">http://www.uniprot.org/uniprot/Q78PG9</a>
NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 12	<b>64</b>	17.1	6	<b>Q9UI09</b>	<a href="http://www.uniprot.org/uniprot/Q9UI09">http://www.uniprot.org/uniprot/Q9UI09</a>
Ras-related protein Rab-36	<b>62</b>	36.8	9	<b>O95755</b>	<a href="http://www.uniprot.org/uniprot/O95755">http://www.uniprot.org/uniprot/O95755</a>
Epididymal-specific lipocalin-5	<b>65</b>	20.8	8	<b>P06911</b>	<a href="http://www.uniprot.org/uniprot/P06911">http://www.uniprot.org/uniprot/P06911</a>
NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 2	<b>57</b>	11.1	7	<b>Q4R5E2</b>	<a href="http://www.uniprot.org/uniprot/Q4R5E2">http://www.uniprot.org/uniprot/Q4R5E2</a>
Zinc finger protein castor homolog 1	<b>72</b>	193.3	15	<b>Q86V15</b>	<a href="http://www.uniprot.org/uniprot/Q86V15">http://www.uniprot.org/uniprot/Q86V15</a>
Hippocalcin-like protein 1	<b>62</b>	22.4	6	<b>P62748</b>	<a href="http://www.uniprot.org/uniprot/P62748">http://www.uniprot.org/uniprot/P62748</a>

Uncharacterized protein C12orf60	<b>56</b>	27.7	10	<b>Q5U649</b>	<a href="http://www.uniprot.org/uniprot/Q5U649">http://www.uniprot.org/uniprot/Q5U649</a>
Mini-chromosome maintenance complex-binding protein	<b>56</b>	73.6	10	<b>Q8R3C0</b>	<a href="http://www.uniprot.org/uniprot/Q8R3C0">http://www.uniprot.org/uniprot/Q8R3C0</a>
Transmembrane protein 132C	<b>59</b>	122.6	8	<b>Q8N3T6</b>	<a href="http://www.uniprot.org/uniprot/Q8N3T6">http://www.uniprot.org/uniprot/Q8N3T6</a>
Ubiquitin carboxyl-terminal hydrolase isozyme L1	<b>56</b>	25.2	5	<b>P50103</b>	<a href="http://www.uniprot.org/uniprot/P50103">http://www.uniprot.org/uniprot/P50103</a>
Apolipoprotein A-II	<b>54</b>	11.2	4	<b>P0DM93</b>	<a href="http://www.uniprot.org/uniprot/P0DM93">http://www.uniprot.org/uniprot/P0DM93</a>
Kinesin light chain 2	<b>52</b>	69.3	10	<b>Q9H0B6</b>	<a href="http://www.uniprot.org/uniprot/Q9H0B6">http://www.uniprot.org/uniprot/Q9H0B6</a>
Glutathione peroxidase 3	<b>50</b>	25.6	6	<b>P23764</b>	<a href="http://www.uniprot.org/uniprot/P23764">http://www.uniprot.org/uniprot/P23764</a>
Prolactin	<b>55</b>	26.6	5	<b>P12420</b>	<a href="http://www.uniprot.org/uniprot/P12420">http://www.uniprot.org/uniprot/P12420</a>
Arginine/serine-rich protein 1	<b>51</b>	33.7	5	<b>Q9BUV0</b>	<a href="http://www.uniprot.org/uniprot/Q9BUV0">http://www.uniprot.org/uniprot/Q9BUV0</a>
Amyloid beta A4 protein (fragment)	<b>58</b>	6.2	4	<b>Q29149</b>	<a href="http://www.uniprot.org/uniprot/Q29149">http://www.uniprot.org/uniprot/Q29149</a>
Leucine-rich repeat-containing protein 49	<b>61</b>	79.4	7	<b>Q91YK0</b>	<a href="http://www.uniprot.org/uniprot/Q91YK0">http://www.uniprot.org/uniprot/Q91YK0</a>
PH and SEC7 domain-containing protein 3	<b>50</b>	115.3	11	<b>Q2PFD7</b>	<a href="http://www.uniprot.org/uniprot/Q2PFD7">http://www.uniprot.org/uniprot/Q2PFD7</a>
Insulin	<b>54</b>	12.5	5	<b>P01321</b>	<a href="http://www.uniprot.org/uniprot/P01321">http://www.uniprot.org/uniprot/P01321</a>
Dual-specificity phosphatase 28	<b>54</b>	18.7	6	<b>Q4G0W2</b>	<a href="http://www.uniprot.org/uniprot/Q4G0W2">http://www.uniprot.org/uniprot/Q4G0W2</a>
Calpain-2 catalytic subunit	<b>50</b>	80.8	8	<b>P17655</b>	<a href="http://www.uniprot.org/uniprot/P17655">http://www.uniprot.org/uniprot/P17655</a>
Peroxiredoxin-1	<b>52</b>	22.3	6	<b>Q06830</b>	<a href="http://www.uniprot.org/uniprot/Q06830">http://www.uniprot.org/uniprot/Q06830</a>
Ras-related protein Rab-25	<b>53</b>	23.5	6	<b>P46629</b>	<a href="http://www.uniprot.org/uniprot/P46629">http://www.uniprot.org/uniprot/P46629</a>
tRNA-dihydrouridine(47) synthase [NAD(P)(+)]-like	<b>53</b>	72.4	9	<b>Q91XI1</b>	<a href="http://www.uniprot.org/uniprot/Q91XI1">http://www.uniprot.org/uniprot/Q91XI1</a>
AarF domain-containing protein kinase 4	<b>56</b>	59.6	8	<b>Q6AY19</b>	<a href="http://www.uniprot.org/uniprot/Q6AY19">http://www.uniprot.org/uniprot/Q6AY19</a>
RING finger protein 10	<b>52</b>	90.7	7	<b>Q08E13</b>	<a href="http://www.uniprot.org/uniprot/Q08E13">http://www.uniprot.org/uniprot/Q08E13</a>
E3 ubiquitin-protein ligase RNF152	<b>60</b>	23.1	5	<b>D2H6Z0</b>	<a href="http://www.uniprot.org/uniprot/D2H6Z0">http://www.uniprot.org/uniprot/D2H6Z0</a>
Protein-arginine deiminase type-3	<b>53</b>	76.3	7	<b>Q9Z184</b>	<a href="http://www.uniprot.org/uniprot/Q9Z184">http://www.uniprot.org/uniprot/Q9Z184</a>
Sentan	<b>65</b>	16.6	5	<b>A6NMZ2</b>	<a href="http://www.uniprot.org/uniprot/A6NMZ2">http://www.uniprot.org/uniprot/A6NMZ2</a>
Plakophilin-4	<b>53</b>	132.3	8	<b>Q68FH0</b>	<a href="http://www.uniprot.org/uniprot/Q68FH0">http://www.uniprot.org/uniprot/Q68FH0</a>
Urotensin-2B	<b>65</b>	13.0	8	<b>Q765I1</b>	<a href="http://www.uniprot.org/uniprot/Q765I1">http://www.uniprot.org/uniprot/Q765I1</a>
Signal peptidase complex subunit 2	<b>53</b>	25.3	8	<b>Q15005</b>	<a href="http://www.uniprot.org/uniprot/Q15005">http://www.uniprot.org/uniprot/Q15005</a>
Tektin-4	<b>54</b>	51.3	12	<b>Q8WW24</b>	<a href="http://www.uniprot.org/uniprot/Q8WW24">http://www.uniprot.org/uniprot/Q8WW24</a>
Cytochrome P450 2J3	<b>53</b>	58.4	10	<b>P51590</b>	<a href="http://www.uniprot.org/uniprot/P51590">http://www.uniprot.org/uniprot/P51590</a>
Ras-related protein Rab-36	<b>64</b>	36.8	9	<b>O95755</b>	<a href="http://www.uniprot.org/uniprot/O95755">http://www.uniprot.org/uniprot/O95755</a>
Isocitrate dehydrogenase [NADP] cytoplasmic	<b>50</b>	47.2	6	<b>Q6XUZ5</b>	<a href="http://www.uniprot.org/uniprot/Q6XUZ5">http://www.uniprot.org/uniprot/Q6XUZ5</a>
E3 ubiquitin-protein ligase RNF169	<b>55</b>	77.1	8	<b>E9Q7F2</b>	<a href="http://www.uniprot.org/uniprot/E9Q7F2">http://www.uniprot.org/uniprot/E9Q7F2</a>
Class E basic helix-loop-helix protein 40	<b>51</b>	45.9	6	<b>O14503</b>	<a href="http://www.uniprot.org/uniprot/O14503">http://www.uniprot.org/uniprot/O14503</a>
Interleukin-13	<b>55</b>	15.5	6	<b>Q9N0W9</b>	<a href="http://www.uniprot.org/uniprot/Q9N0W9">http://www.uniprot.org/uniprot/Q9N0W9</a>
Rab GDP dissociation inhibitor beta	<b>67</b>	50.8	7	<b>O97556</b>	<a href="http://www.uniprot.org/uniprot/O97556">http://www.uniprot.org/uniprot/O97556</a>
Isocitrate dehydrogenase	<b>60</b>	51.3	8	<b>P54071</b>	<a href="http://www.uniprot.org/uniprot/P54071">http://www.uniprot.org/uniprot/P54071</a>

[NADP], mitochondrial					
Stanniocalcin-2	<b>63</b>	34.1	8	<b>O97561</b>	<a href="http://www.uniprot.org/uniprot/O97561">http://www.uniprot.org/uniprot/O97561</a>
Ephrin type-B receptor 4	<b>50</b>	110.3	11	<b>P54761</b>	<a href="http://www.uniprot.org/uniprot/P54761">http://www.uniprot.org/uniprot/P54761</a>
NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 12	<b>60</b>	17.1	7	<b>Q9UI09</b>	<a href="http://www.uniprot.org/uniprot/Q9UI09">http://www.uniprot.org/uniprot/Q9UI09</a>
Dual-specificity phosphatase 28	<b>54</b>	18.7	7	<b>Q4G0W2</b>	<a href="http://www.uniprot.org/uniprot/Q4G0W2">http://www.uniprot.org/uniprot/Q4G0W2</a>
Parafibromin	<b>54</b>	60.7	13	<b>Q6P1J9</b>	<a href="http://www.uniprot.org/uniprot/Q6P1J9">http://www.uniprot.org/uniprot/Q6P1J9</a>
Bactericidal permeability-increasing protein	<b>59</b>	54	10	<b>Q6AXU0</b>	<a href="http://www.uniprot.org/uniprot/Q6AXU0">http://www.uniprot.org/uniprot/Q6AXU0</a>
Zinc finger protein castor homolog 1	<b>61</b>	193.3	17	<b>Q86V15</b>	<a href="http://www.uniprot.org/uniprot/Q86V15">http://www.uniprot.org/uniprot/Q86V15</a>
Calcitonin receptor-stimulating peptide 2	<b>44</b>	14.3	7	<b>Q75V93</b>	<a href="http://www.uniprot.org/uniprot/Q75V93">http://www.uniprot.org/uniprot/Q75V93</a>
Corticoliberin	<b>58</b>	20.8	9	<b>Q95MI6</b>	<a href="http://www.uniprot.org/uniprot/Q95MI6">http://www.uniprot.org/uniprot/Q95MI6</a>
Urotensin-2B	<b>50</b>	13	6	<b>Q765I1</b>	<a href="http://www.uniprot.org/uniprot/Q765I1">http://www.uniprot.org/uniprot/Q765I1</a>
Pumilio homolog 3	<b>53</b>	73.9	16	<b>Q15397</b>	<a href="http://www.uniprot.org/uniprot/Q15397">http://www.uniprot.org/uniprot/Q15397</a>
Protein FAM162B	<b>55</b>	18.1	9	<b>A6QPI4</b>	<a href="http://www.uniprot.org/uniprot/A6QPI4">http://www.uniprot.org/uniprot/A6QPI4</a>
Cytochrome c oxidase subunit 6C	<b>55</b>	8.6	7	<b>Q7YRK2</b>	<a href="http://www.uniprot.org/uniprot/Q7YRK2">http://www.uniprot.org/uniprot/Q7YRK2</a>
Aromatase	<b>56</b>	58.6	13	<b>P46194</b>	<a href="http://www.uniprot.org/uniprot/P46194">http://www.uniprot.org/uniprot/P46194</a>
Zinc finger protein 101	<b>50</b>	51.9	9	<b>Q8IZC7</b>	<a href="http://www.uniprot.org/uniprot/Q8IZC7">http://www.uniprot.org/uniprot/Q8IZC7</a>
Phosphatidylethanolamine-binding protein 1	<b>52</b>	21.2	5	<b>Q8MK67</b>	<a href="http://www.uniprot.org/uniprot/Q8MK67">http://www.uniprot.org/uniprot/Q8MK67</a>
Leucine-tRNA ligase, cytoplasmic	<b>57</b>	135.7	11	<b>Q5R614</b>	<a href="http://www.uniprot.org/uniprot/Q5R614">http://www.uniprot.org/uniprot/Q5R614</a>
NACHT, LRR and PYD domains-containing protein 10	<b>76</b>	77.3	14	<b>Q8CCN1</b>	<a href="http://www.uniprot.org/uniprot/Q8CCN1">http://www.uniprot.org/uniprot/Q8CCN1</a>
Urotensin-2B	<b>70</b>	13	7	<b>Q765I1</b>	<a href="http://www.uniprot.org/uniprot/Q765I1">http://www.uniprot.org/uniprot/Q765I1</a>
Mortality factor 4-like protein 2	<b>82</b>	32.2	8	<b>Q9R0Q4</b>	<a href="http://www.uniprot.org/uniprot/Q9R0Q4">http://www.uniprot.org/uniprot/Q9R0Q4</a>
Nucleolar pre-ribosomal-associated protein 1	<b>59</b>	256.5	15	<b>O60287</b>	<a href="http://www.uniprot.org/uniprot/O60287">http://www.uniprot.org/uniprot/O60287</a>
Serine/threonine-protein phosphatase 6 catalytic subunit	<b>74</b>	35.8	10	<b>O00743</b>	<a href="http://www.uniprot.org/uniprot/O00743">http://www.uniprot.org/uniprot/O00743</a>
Hemopexin	<b>63</b>	52	7	<b>Q91X72</b>	<a href="http://www.uniprot.org/uniprot/Q91X72">http://www.uniprot.org/uniprot/Q91X72</a>
Rab GDP dissociation inhibitor beta	<b>52</b>	51	8	<b>P50397</b>	<a href="http://www.uniprot.org/uniprot/P50397">http://www.uniprot.org/uniprot/P50397</a>
Sperm surface protein Sp17	<b>55</b>	17.3	5	<b>Q62252</b>	<a href="http://www.uniprot.org/uniprot/Q62252">http://www.uniprot.org/uniprot/Q62252</a>
Natriuretic peptides B	<b>46</b>	15.1	4	<b>P16859</b>	<a href="http://www.uniprot.org/uniprot/P16859">http://www.uniprot.org/uniprot/P16859</a>
Iron-responsive element-binding protein 2	<b>55</b>	106.1	8	<b>B3VKQ2</b>	<a href="http://www.uniprot.org/uniprot/B3VKQ2">http://www.uniprot.org/uniprot/B3VKQ2</a>
STE20-related kinase adapter protein alpha	<b>53</b>	41.9	5	<b>Q5E9J9</b>	<a href="http://www.uniprot.org/uniprot/Q5E9J9">http://www.uniprot.org/uniprot/Q5E9J9</a>
E3 ubiquitin-protein ligase RNF169	<b>50</b>	77.1	9	<b>E9Q7F2</b>	<a href="http://www.uniprot.org/uniprot/E9Q7F2">http://www.uniprot.org/uniprot/E9Q7F2</a>
Acyl-coenzyme A synthetase ACSM2B, mitochondrial	<b>57</b>	64.8	8	<b>Q68CK6</b>	<a href="http://www.uniprot.org/uniprot/Q68CK6">http://www.uniprot.org/uniprot/Q68CK6</a>
Survival motor neuron protein	<b>63</b>	32.2	9	<b>Q4R4F8</b>	<a href="http://www.uniprot.org/uniprot/Q4R4F8">http://www.uniprot.org/uniprot/Q4R4F8</a>
Tektin-4	<b>54</b>	51.3	8	<b>Q8WW24</b>	<a href="http://www.uniprot.org/uniprot/Q8WW24">http://www.uniprot.org/uniprot/Q8WW24</a>



Anaphase-promoting complex subunit CDC26	<b>61</b>	9.8	4	<b>Q3SZT7</b>	<a href="http://www.uniprot.org/uniprot/Q3SZT7">http://www.uniprot.org/uniprot/Q3SZT7</a>
39S ribosomal protein L30, mitochondrial	<b>71</b>	18.7	5	<b>Q58DV5</b>	<a href="http://www.uniprot.org/uniprot/Q58DV5">http://www.uniprot.org/uniprot/Q58DV5</a>
Interleukin-4	<b>64</b>	15.5	6	<b>P55030</b>	<a href="http://www.uniprot.org/uniprot/P55030">http://www.uniprot.org/uniprot/P55030</a>
39S ribosomal protein L10, mitochondrial	<b>51</b>	29.6	8	<b>Q3TBW2</b>	<a href="http://www.uniprot.org/uniprot/Q3TBW2">http://www.uniprot.org/uniprot/Q3TBW2</a>
39S ribosomal protein L30, mitochondrial	<b>50</b>	18.7	5	<b>Q58DV5</b>	<a href="http://www.uniprot.org/uniprot/Q58DV5">http://www.uniprot.org/uniprot/Q58DV5</a>
Acylophosphatase-2	<b>61</b>	11.1	7	<b>P35744</b>	<a href="http://www.uniprot.org/uniprot/P35744">http://www.uniprot.org/uniprot/P35744</a>
Tektin-4	<b>51</b>	51.3	8	<b>Q8WW24</b>	<a href="http://www.uniprot.org/uniprot/Q8WW24">http://www.uniprot.org/uniprot/Q8WW24</a>
Potassium/sodium hyperpolarization-activated cyclic nucleotide-gated channel 2	<b>68</b>	95.7	17	<b>Q9JKA9</b>	<a href="http://www.uniprot.org/uniprot/Q9JKA9">http://www.uniprot.org/uniprot/Q9JKA9</a>
Dual-specificity phosphatase 28	<b>50</b>	18.7	6	<b>Q4G0W2</b>	<a href="http://www.uniprot.org/uniprot/Q4G0W2">http://www.uniprot.org/uniprot/Q4G0W2</a>
Hydroxysteroid dehydrogenase-like protein 2	<b>63</b>	45.5	10	<b>A4FUZ6</b>	<a href="http://www.uniprot.org/uniprot/A4FUZ6">http://www.uniprot.org/uniprot/A4FUZ6</a>
Islet amyloid polypeptide	<b>52</b>	10	5	<b>P17716</b>	<a href="http://www.uniprot.org/uniprot/P17716">http://www.uniprot.org/uniprot/P17716</a>
G-protein coupled receptor-associated sorting protein 1	<b>51</b>	152.8	13	<b>Q5U4C1</b>	<a href="http://www.uniprot.org/uniprot/Q5U4C1">http://www.uniprot.org/uniprot/Q5U4C1</a>
Growth/differentiation factor 2	<b>52</b>	47.9	7	<b>Q9UK05</b>	<a href="http://www.uniprot.org/uniprot/Q9UK05">http://www.uniprot.org/uniprot/Q9UK05</a>
Cytosolic purine 5'-nucleotidase	<b>52</b>	65.3	10	<b>O46411</b>	<a href="http://www.uniprot.org/uniprot/O46411">http://www.uniprot.org/uniprot/O46411</a>
Vesicle transport protein USE1	<b>59</b>	30.8	16	<b>Q9CQ56</b>	<a href="http://www.uniprot.org/uniprot/Q9CQ56">http://www.uniprot.org/uniprot/Q9CQ56</a>
Putative zinc finger protein 137	<b>61</b>	24.7	8	<b>P52743</b>	<a href="http://www.uniprot.org/uniprot/P52743">http://www.uniprot.org/uniprot/P52743</a>
Elongation factor 1-beta	<b>52</b>	25	5	<b>Q5E983</b>	<a href="http://www.uniprot.org/uniprot/Q5E983">http://www.uniprot.org/uniprot/Q5E983</a>
Tektin-4	<b>64</b>	51.3	12	<b>Q8WW24</b>	<a href="http://www.uniprot.org/uniprot/Q8WW24">http://www.uniprot.org/uniprot/Q8WW24</a>
Parathyroid hormone/parathyroid hormone-related peptide receptor	<b>67</b>	66.7	9	<b>Q1LZF7</b>	<a href="http://www.uniprot.org/uniprot/Q1LZF7">http://www.uniprot.org/uniprot/Q1LZF7</a>
Chorionic somatomammotropin hormone 2	<b>50</b>	28.2	6	<b>P19159</b>	<a href="http://www.uniprot.org/uniprot/P19159">http://www.uniprot.org/uniprot/P19159</a>
Probable tubulin polyglutamylase TLL1	<b>51</b>	49.5	8	<b>Q5PPI9</b>	<a href="http://www.uniprot.org/uniprot/Q5PPI9">http://www.uniprot.org/uniprot/Q5PPI9</a>
Collagen alpha-1(XI) chain (fragment)	<b>62</b>	89.3	10	<b>Q28083</b>	<a href="http://www.uniprot.org/uniprot/Q28083">http://www.uniprot.org/uniprot/Q28083</a>
G kinase-anchoring protein 1	<b>68</b>	42.2	10	<b>Q5XIG5</b>	<a href="http://www.uniprot.org/uniprot/Q5XIG5">http://www.uniprot.org/uniprot/Q5XIG5</a>
Protein phosphatase Slingshot homolog 1	<b>67</b>	116.5	14	<b>Q8WYL5</b>	<a href="http://www.uniprot.org/uniprot/Q8WYL5">http://www.uniprot.org/uniprot/Q8WYL5</a>
Arginine/serine-rich protein 1	<b>58</b>	33.7	8	<b>Q9BUV0</b>	<a href="http://www.uniprot.org/uniprot/Q9BUV0">http://www.uniprot.org/uniprot/Q9BUV0</a>
Sorting and assembly machinery component 50 homolog	<b>50</b>	52.2	6	<b>Q8BGH2</b>	<a href="http://www.uniprot.org/uniprot/Q8BGH2">http://www.uniprot.org/uniprot/Q8BGH2</a>
Cystatin-B	<b>57</b>	11.2	4	<b>P25417</b>	<a href="http://www.uniprot.org/uniprot/P25417">http://www.uniprot.org/uniprot/P25417</a>
Desmin	<b>61</b>	53.6	13	<b>P17661</b>	<a href="http://www.uniprot.org/uniprot/P17661">http://www.uniprot.org/uniprot/P17661</a>
Transmembrane inner ear expressed protein	<b>52</b>	53.6	6	<b>Q8K467</b>	<a href="http://www.uniprot.org/uniprot/Q8K467">http://www.uniprot.org/uniprot/Q8K467</a>
Putative uncharacterized protein encoded by CRHR1-IT1	<b>50</b>	17.2	6	<b>Q96LR1</b>	<a href="http://www.uniprot.org/uniprot/Q96LR1">http://www.uniprot.org/uniprot/Q96LR1</a>

Oculomedin	<b>58</b>	5.3	5	<b>Q9Y5M6</b>	<a href="http://www.uniprot.org/uniprot/Q9Y5M6">http://www.uniprot.org/uniprot/Q9Y5M6</a>
Protein kish-A	<b>62</b>	8.3	5	<b>Q148I3</b>	<a href="http://www.uniprot.org/uniprot/Q148I3">http://www.uniprot.org/uniprot/Q148I3</a>
Rab GDP dissociation inhibitor beta	<b>51</b>	50.8	6	<b>O97556</b>	<a href="http://www.uniprot.org/uniprot/O97556">http://www.uniprot.org/uniprot/O97556</a>
Glutathione S-transferase Mu 6	<b>52</b>	25.8	8	<b>O35660</b>	<a href="http://www.uniprot.org/uniprot/O35660">http://www.uniprot.org/uniprot/O35660</a>
Hemoglobin subunit beta	<b>68</b>	16.3	8	<b>P02073</b>	<a href="http://www.uniprot.org/uniprot/P02073">http://www.uniprot.org/uniprot/P02073</a>
Zinc finger and SCAN domain-containing protein 5A	<b>62</b>	56.9	11	<b>Q9BUG6</b>	<a href="http://www.uniprot.org/uniprot/Q9BUG6">http://www.uniprot.org/uniprot/Q9BUG6</a>
Ras-related protein Rab-36	<b>53</b>	36.8	7	<b>O95755</b>	<a href="http://www.uniprot.org/uniprot/O95755">http://www.uniprot.org/uniprot/O95755</a>
39S ribosomal protein L50, mitochondrial	<b>54</b>	18.3	9	<b>Q8VDT9</b>	<a href="http://www.uniprot.org/uniprot/Q8VDT9">http://www.uniprot.org/uniprot/Q8VDT9</a>
NAD-dependent protein deacetylase sirtuin-7	<b>51</b>	45.7	9	<b>Q8BKJ9</b>	<a href="http://www.uniprot.org/uniprot/Q8BKJ9">http://www.uniprot.org/uniprot/Q8BKJ9</a>
Ras-related protein Rab-36	<b>57</b>	36.8	12	<b>O95755</b>	<a href="http://www.uniprot.org/uniprot/O95755">http://www.uniprot.org/uniprot/O95755</a>
Putative uncharacterized protein encoded by LINC01546	<b>62</b>	7.3	5	<b>A6NGU7</b>	<a href="http://www.uniprot.org/uniprot/A6NGU7">http://www.uniprot.org/uniprot/A6NGU7</a>
Hemoglobin subunit beta	<b>51</b>	16.3	7	<b>P02073</b>	<a href="http://www.uniprot.org/uniprot/P02073">http://www.uniprot.org/uniprot/P02073</a>
3-oxo-5-beta-steroid 4-dehydrogenase	<b>50</b>	37.7	8	<b>P51857</b>	<a href="http://www.uniprot.org/uniprot/P51857">http://www.uniprot.org/uniprot/P51857</a>
Synaptosomal-associated protein 29	<b>56</b>	29.1	7	<b>Q9Z2P6</b>	<a href="http://www.uniprot.org/uniprot/Q9Z2P6">http://www.uniprot.org/uniprot/Q9Z2P6</a>
Zinc finger protein 624	<b>52</b>	102.5	10	<b>Q9P2J8</b>	<a href="http://www.uniprot.org/uniprot/Q9P2J8">http://www.uniprot.org/uniprot/Q9P2J8</a>
Ubiquitin carboxyl-terminal hydrolase 48	<b>51</b>	120.7	11	<b>Q76LT8</b>	<a href="http://www.uniprot.org/uniprot/Q76LT8">http://www.uniprot.org/uniprot/Q76LT8</a>
Cholecystokinin	<b>56</b>	12.7	4	<b>P23362</b>	<a href="http://www.uniprot.org/uniprot/P23362">http://www.uniprot.org/uniprot/P23362</a>

405 **Table 3**

406 List of *Canis familiaris* proteins identified in the urine of dogs with babesiosis by MALDI-  
407 TOF/TOF.

408

Nr	Accession <sup>a</sup>	Protein name	GO molecular function
1	P06596	Phospholipase A2	phospholipase
2	A4Z944	Zinc finger BED domain-containing protein 5	transcription factor
3	O46392	Collagen alpha-2(I) chain	extracellular matrix structural constituent
4	Q9XSU4	40S ribosomal protein S11	structural constituent of ribosome
5	O97556	Rab GDP dissociation inhibitor beta	G-protein modulator acyltransferase
6	Q9TTY2	Tyrosine-protein kinase Fer	tyrosine kinase activity
7	P19006	Haptoglobin	hemoglobin binding
8	Q75V93	Calcitonin receptor-stimulating peptide 2	peptide hormone
9	Q2KNA0	Cytospin-A	structural component
10	P01321	Insulin	hormone
12	Q9N2I9	Mitochondrial uncoupling protein 3	oxidative phosphorylation
11	E2RK33	Glutamyl-tRNA(Gln) amidotransferase subunit C, mitochondrial	ligase
12	Q32KH5	N-acetylgalactosamine-6-sulfatase	hydrolase
13	P27597	T-cell surface glycoprotein CD3 epsilon chain	transmembrane signalling receptor
14	P24408	Ras-related protein Rab-9A	GTPase
15	P34819	Bone morphogenetic protein 7 (fragment)	growth factor
16	Q5TJE5	Ral guanine nucleotide dissociation stimulator-like 2	guanyl-nucleotide exchange factor
17	Q9N0W9	Interleukin-13	cytokine
18	Q8WMX5	Solute carrier family 15 member 1	transporter
19	O97578	Dipeptidyl peptidase 1 (fragment)	endopeptidase
20	Q861Y6	Nicolin-1	structural component
21	P17716	Islet amyloid polypeptide	hormone

409

410 a. in UniProt database (<http://www.uniprot.org>)

411



412 **Table 4**

413 List of 10 metabolic pathways and 8 associated proteins in the urine of dogs with babesiosis.

414

<b>Nr</b>	<b>Pathway</b>	<b>Protein</b>
1	CCKR signalling map	Calcitonin receptor-stimulating peptide 2
2	Cadherin signalling pathway	Tyrosine-protein kinase Fer
3	Gonadotropin-releasing hormone receptor pathway	Insulin/Bone morphogenetic protein 7 (fragment)
4	Inflammation response mediated by chemokines and cytokines	Interleukin 13
5	Insulin/IGF pathway-mitogen activated protein kinase kinase/MAP kinase cascade	Insulin/insulin-like growth factor
6	Insulin/IGF pathway-protein kinase B signaling cascade	Insulin/insulin-like growth factor
7	Integrin signalling pathway	Collagen alpha-2(I) chain
8	Ras pathway	Ral guanine nucleotide dissociation stimulator-like 2
9	T cell activation	T cell surface glycoprotein CD3 epsilon chain
10	TGF-beta signaling pathway	Bone morphogenetic protein 7 (fragment)

415