# **Supplementary Information**

# Structural covariance networks are coupled to expression of genes enriched in supragranular layers of the human cortex

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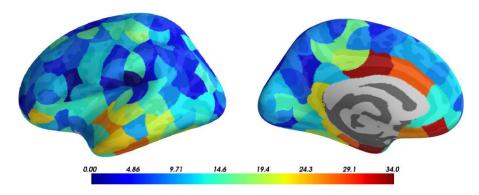
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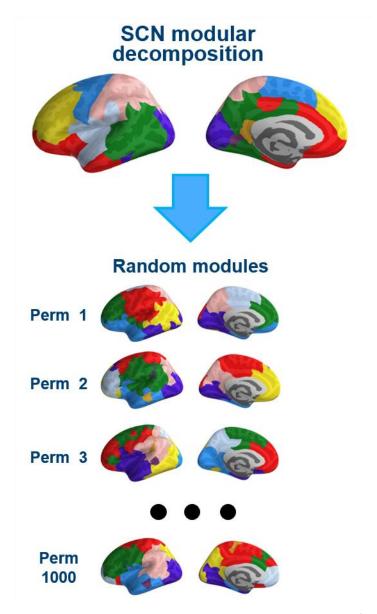
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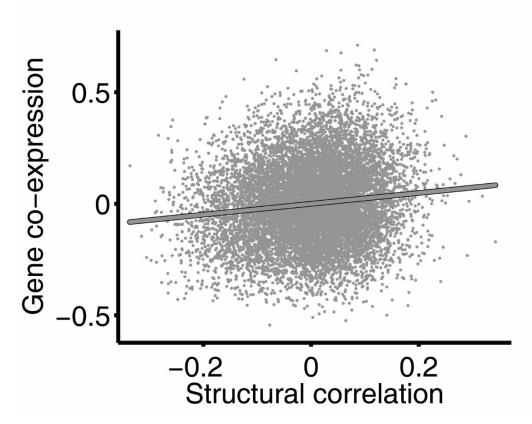
**Keywords:** Allen Brain Atlas, cortical thickness, gene expression, structural brain network, transcriptomic brain network



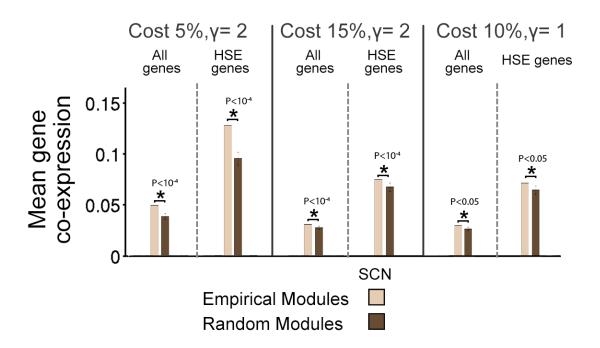
**Figure S1:** Number of AIBS samples in each cortical region.



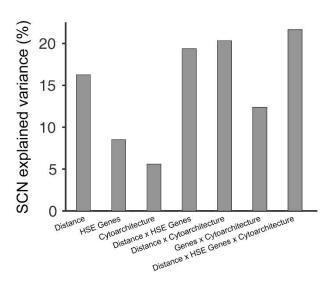
**Figure S2:** Random modular communities that preserve the number and size of modules, as well as the spatial contiguity of the empirical community partition.



**Figure S3:** Scatterplot of gene co-expression versus structural covariance after regressing out the effect of the inter-regional distance.



**Figure S4:** Mean gene co-expression between nodes located in the same SCN module for the empirical modules (light colors) and the random null modules (dark colors). Results replicated for different SCN costs (5%, 10% and 15%) and modularity resolution parameters ( $\gamma$ =1 and  $\gamma$ =2).



**Figure S5:** HSE gene expression has effects on structural covariation that are additive to the effects of connection distance. First column represents the SCN variance explained (R<sup>2</sup>) by interregional distance using the log value of the inter-regional distance. Second and third column show the SCN variance explained by HSE gene expression and VE. The rest of the columns display the SCN variance explained by a linear multiple regression using combinations of variables.

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