

# **KMT1/Suv39 methyltransferase family regulates peripheral heterochromatin tethering via histone and non-histone protein methylations**

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## **Wt. LMNB1Sequence**

ATGGCGACTGCGACCCCCGTGCCCGCGGATGGGCAGCCGCGCTGGCGGCCCCACCACGCCGCTGAGC  
C  
CCACGCGCCTGTTCGCGGCTCCAGGAGAAGGAGAGCTGCGCGAGCTCAATGACCGGCTGGCGGTGTACA  
T  
CGACAAGGTGCGCAGCCTGGAGACGGAGAACAGCGCGCTGCAGCTGCAGGTGACGGAGCGCGAGGAGGT  
G  
CGCGGCCGTGAGCTCACCGCCTCAAGGCGCTCTACGAGACCGAGCTGGCCGACGCGGACGCGCGCTC  
G  
ACGACACGGCCCCGCGAGCGCGCCAAGCTGCAGATCGAGCTGGGCAAGTGCAAGGCGGAACACGACCAGC  
T  
GCTCCTCAACTATGCTAAGAAGGAATCTGATCTTAATGGCGCCAGATCAAGCTTCGAGAATATGAAGC  
A  
GCACTGAATTCGAAAGATGCAGCTCTTGCTACTGCACTTGGTGACAAAAAAGTTTAGAGGGAGATTTG  
G  
AGGATCTGAAGGATCAGATTGCCAGTTGGAAGCCTCCTTAGCTGCAGCCAAAAAACAGTTAGCAGATG  
A  
AACTTTACTTAAAGTAGATTTGGAGAATCGTTGTCAGAGCCTTACTGAGGACTTGGAGTTTCGCAAAAG  
C  
ATGTATGAAGAGGAGATTAACGAGACCAGAAGGAAGCATGAAACGCGCTTGGTAGAGGTGGATTCTGGG  
C  
GTCAAATTGAGTATGAGTACAAGCTGGCGCAAGCCCTTCATGAGATGAGAGAGCAACATGATGCCCAAG  
T  
GAGGCTGTATAAGGAGGAGCTGGAGCAGACTTACCATGCCAACTTGAGAATGCCAGACTGTCATCAGA  
G  
ATGAATACTTCTACTGTCAACAGTGCCAGGGAAGAACTGATGGAAAGCCGCATGAGAATTGAGAGCCTT  
T  
CATCCCAGCTTTCTAATCTACAGAAAGAGTCTAGAGCATGTTTGGAAAGGATTCAGAATTAGAGGACT  
T  
GCTTGCTAAAGAAAAAGACAACCTCTCGTCGCATGCTGACAGACAAAAGAGAGAGAGATGGCGGAAATAAG  
G  
GATCAAATGCAGCAACAGCTGAATGACTATGAACAGCTTCTTGATGTAAAGTTAGCCCTGGACATGGAA  
A  
TCAGTGCTTACAGGAACTCTTAGAAGGCGAAGAAGAGAGGTTGAAGCTGTCTCCAAGCCCTTCTTCCC

G  
TGTGACAGTATCCCGAGCATCCTCAAGTCGTAGTGTACGTACAAC TAGAGGAAAGCGG **AAG**AGGGTTGA  
T  
GTGGAAGAATCAGAGGCGAGTAGTAGTGTAGCATCTCTCATTCGCGCTCAGCCACTGGAAATGTTTGC  
A  
TCGAAGAAATTGATGTTGATGGGAAATTTATCCGCTTGAAGAACACTTCTGAACAGGATCAACCAATGG  
G  
AGGCTGGGAGATGATCAGAAAAATTGGAGACACATCAGTCAGTTATAAATATACCTCAAGATATGTGCT  
G  
AAGGCAGGCCAGACTGTTACAATTTGGGCTGCAAACGCTGGTGTACAGCCAGCCCCCAACTGACCTC  
A  
TCTGGAAGAACCAGAACTCGTGGGGCACTGGCGAAGATGTGAAGGTTATATTGAAAAATTTCTCAGGGAG  
A  
GGAGGTTGCTCAAAGAAGTACAGTCTTTAAAACAACCATACCTGAAGAAGAGGAGGAGGAGGAAGAAGC  
A  
GCTGGAGTGGTTGTTGAGGAAGAACTTTTCCACCAGCAGGGAACCCCAAGAGCATCCAATAGAAGCTGT  
G CAATTATGTAA

### **K417-LMNB1 sequence**

ATGGCGACTGCGACCCCCGTGCCCGCGGATGGGCAGCCGCGCTGGCGGCCCCACCACGCCGCTGAGC  
C  
CCACGCGCCTGTGCGGGCTCCAGGAGAAGGAGGAGCTGCGCGAGCTCAATGACCGGCTGGCGGTGTACA  
T  
CGACAAGGTGCGCAGCCTGGAGACGGAGAACAGCGCGCTGCAGCTGCAGGTGACGGAGCGCGAGGAGGT  
G  
CGCGGCCGTGAGCTCACCGCCTCAAGGCCTCTACGAGACCGAGCTGGCCGACGCGGACGCGCGCTC  
G  
ACGACACGGCCCCGCGAGCGCGCCAAGCTGCAGATCGAGCTGGGCAAGTGCAAGGCGGAACACGACCAGC  
T  
GCTCCTCAACTATGCTAAGAAGGAATCTGATCTTAATGGCGCCAGATCAAGCTTCGAGAATATGAAGC  
A  
GCACTGAATTCGAAAGATGCAGCTCTTGCTACTGCACTTGGTGACAAAAAAGTTTAGAGGGAGATTTG  
G  
AGGATCTGAAGGATCAGATTGCCAGTTGGAAGCCTCCTTAGCTGCAGCCAAAAACAGTTAGCAGATG  
A  
AACTTTACTTAAAGTAGATTTGGAGAATCGTTGTCAGAGCCTTACTGAGGACTTGGAGTTTCGCAAAG  
C  
ATGTATGAAGAGGAGATTAACGAGACCAGAAGGAAGCATGAAACGCGCTTGGTAGAGGTGGATTC TGGG  
C  
GTCAAATTGAGTATGAGTACAAGCTGGCGCAAGCCCTTCATGAGATGAGAGAGCAACATGATGCCCAAG  
T  
GAGGCTGTATAAGGAGGAGCTGGAGCAGACTTACCATGCCAAACTTGAGAAATGCCAGACTGTCATCAGA  
G  
ATGAATACTTCTACTGTCAACAGTGCCAGGGAAGAACTGATGGAAAGCCGCATGAGAATTGAGAGCCTT  
T  
CATCCCAGCTTTCTAATCTACAGAAAGAGTCTAGAGCATGTTTGGAAAGGATTC AAGAATTAGAGGACT  
T  
GCTTGCTAAAGAAAAAGACAACTCTCGTCGCATGCTGACAGACAAAGAGAGAGAGATGGCGGAAATAAG  
G  
GATCAAATGCAGCAACAGCTGAATGACTATGAAACAGCTTCTTGATGTAAAGTTAGCCCTGGACATGGAA  
A  
TCAGTGCTTACAGGAAACTCTTAGAAGGCGAAGAAGAGAGGTTGAAGCTGTCTCCAAGCCCTTCTTCCC

G  
TGTGACAGTATCCCGAGCATCCTCAAGTCGTAGTGTACGTACAAC TAGAGGAAAGCGG **GCC**AGGGTTG  
AT  
GTGGAAGAATCAGAGGCGAGTAGTAGTGTAGCATCTCTCATTCGCTCAGCCACTGGAAATGTTTGC  
A  
TCGAAGAAATTGATGTTGATGGGAAATTTATCCGCTTGAAGAACA CTCTGAACAGGATCAACCAATGG  
G  
AGGCTGGGAGATGATCAGAAAAATTGGAGACACATCAGTCAGTTATAAATATACCTCAAGATATGTGCT  
G  
AAGGCAGGCCAGACTGTTACAATTTGGGCTGCAAACGCTGGTGT CACAGCCAGCCCCCAACTGACCTC  
A  
TCTGGAAGAACCAGAACTCGTGGGGCACTGGCGAAGATGTGAAGGTTATATTGAAAAATCTCAGGGAG  
A  
GGAGGTTGCTCAAAGAAGTACAGTCTTTAAAACAACCATACCTGAAGAAGAGGAGGAGGAGGAAGAAGC  
A  
GCTGGAGTGGTTGTTGAGGAAGA ACTTTTCCACCAGCAGGGAACCCCAAGAGCATCCAATAGAAGCTGT  
G CAATTATGTAA