

Supplementary Table 1:

qPCR primers for gene expression	
N6amt1 LP	GAAGGGGAAAGTAGACCTGCT
N6amt1 RP	TCTTCAGGCGGAGTCACTACA
N6amt2 LP	CAGTGGTCGCAGACACTTTGT
N6amt2 RP	CTGGGGTTGACGGATTGCTT
B-actin LP	GGCTGTATTCCCCTCCATCG
B-actin RP	CCAGTTGGTAACAATGCCATGT
BDNF exon4 LP	GTGGACTCCCACCCACTTT
BDNF exon 4 RP	TATTACCTCCGCCATGCAAT
qPCR primers for chIP	
BDNF proximal GATC LP	GTGGACTCCCACCCACTTT
BDNF proximal GATC RP	ATTGCATGGCGGAGGTAATA
BDNF distal GATC LP	GTTTAACAAAGCAGCAATCCA
BDNF distal GATC RP	AGTGGTCTTTGGACCGTTTTT
shRNA or scrambled control sequence	
N6amt1 shRNA scrambled control	GCACATTCTCTGATTAGTTAT
N6amt1 shRNA	TGTTCTACTTAGTTACCGTAA
N6amt2 shRNA scrambled control	GCATCTGACAGGCTTAACCT
N6amt2 shRNA	CCGCTGTTACACGAACTATG

Supplementary Table 2:

List of antibody			
Name	HOST	Cat#	Company
H4K4me3	rabbit	39915	active motif
YY1	rabbit	ab38422	Abcam
Pol II	rabbit	sc-899X	Santa Cruz
m6dA	rabbit	61495	active motif
N6amt1	rabbit	SC-83304	Santa Cruz
N6amt2	rabbit	SC-84221	Santa Cruz