Downregulation of m⁶A demethylase ALKBH5 promotes AuNPs-induced neural stem cells quiescence via regulating ID4 expression

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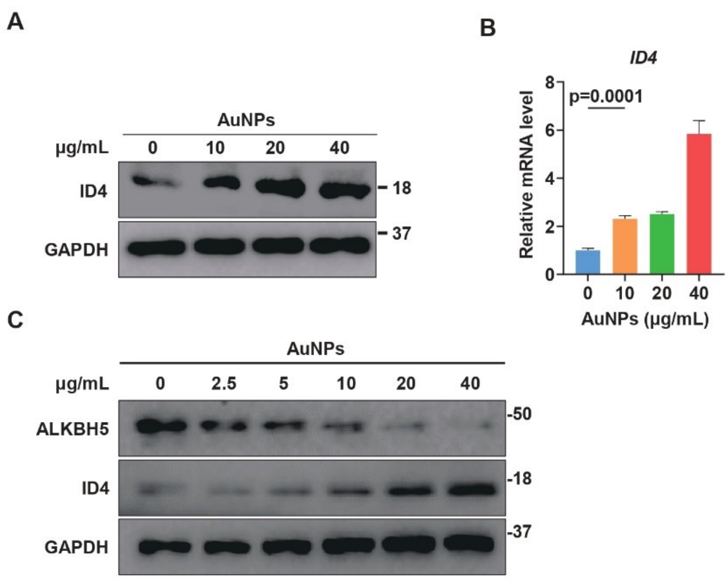

Fig. S1. AuNPs exposure promotes ID4 expression in HepG2 cells and SH-SY5Y cells. (A, B) Western blot (*A*) or qPCR analysis (*B*) of ID4 protein levels in HepG2 cells that treated with the indicated concentrations of AuNP30. (C) Western blot analysis of

ALKBH5 and ID4 levels in SH-SY5Y cells that treated with different concentrations of AuNP30. Data are shown as means ± S.D.

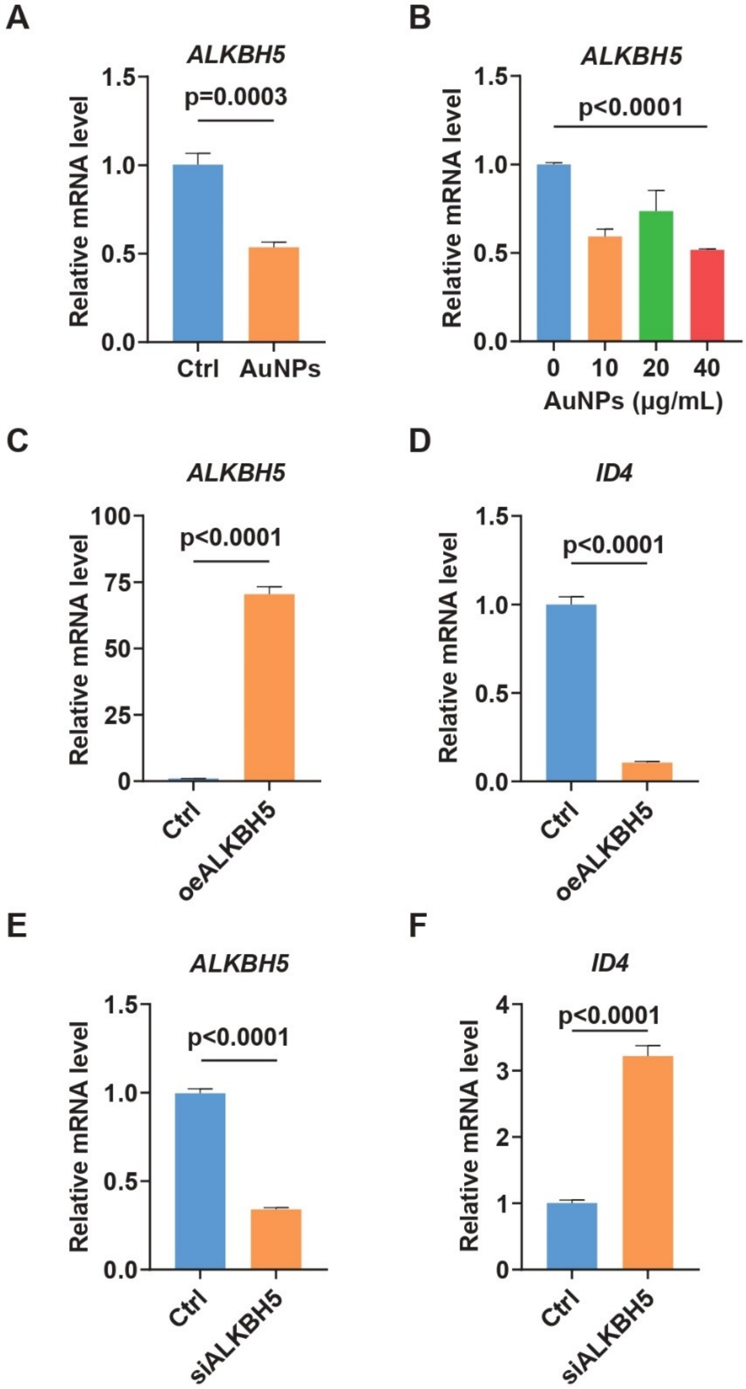

Fig. S2. AuNPs exposure promotes ID4 expression via down-regulating ALKBH5. (A, B) qPCR analysis of ALKBH5 mRNA levels in NSCs (*A*) or HepG2 (*B*) cells that treated with 10 μg/mL AuNP30 (n = 3). (C-F) HepG2 cells were transfected with or without ALKBH5 overexpression construct (*C*, *D*), or ALKBH5 siRNA (*E*, *F*) for 48 h, the mRNA levels of ALKBH5 and ID4 were then analyzed by qPCR assay (n = 3). Data are shown as means ± S.D.

Table 1. The sequences of qPCR primers and siRNAs.

Target	Forward/Reverse primer (5'-3')
ID1	AATTACGTGCTCTGTGGGTCTCCC GTCTCTGGTGACTAGTAGGTGTGC
ID2	TCCAATCCTGTGCTGCTA ACTCTGTGAATCCCGTTT
ID3	AACTTCGCCCTGCCCACTTGACTT CACCTCCACGCTCTGAAAAGACCT
ID4	ACGACTGCTATAGCCGCCTG ACGTGCTGCAGGATCTCCAC
BMP4	CTCCAAGAATGGAGGCTGTAGGAA CCTATGAGATGGAGCAGGCAAGA
ASCL1	CGGCCAACAAGAAGATGAGT TGGAGTAGTTGGGGGAGATG
PAX6	ATGAGGCTCAAATGCGACTT CATTTGGCCCTTCGATTAGA
SOX2	CATCACCCACAGCAAATGAC TTTTTCGTCGCTTGGAGACT
BTG1	AGCTGAACCTGTATCTGCGG GAATTCCTGGTGCCAAAGGC
NOTCH1	GCGGCCGCCTTTGTGCTTCTGTTC GCCGGCGCGTCCTCCTCTTCC
NOTCH2	TCGTGCAAGAGCCAGTTACCC AATGTCATGGCCGCTTCAGAG
NOTCH3	AAGTTACCCCCAAGAGGCAAGTGTT AAGGAAATGAGAGGCCAGAAGGAGA
HES1	CCAAAGACAGCATCTGAGCA CATTGATCTGGGTCATGCAG
HES5	CTCAGCCCCAAAGAGAAAAA TAGTCCTGGTGCAGGCTCTT
P21	CCTGTCACTGTCTTGTACCCT GCGTTTGGAGTGGTAGAAATCT
P27	TAATTGGGGCTCCGGCTAACT TTGCAGGTCGCTTCCTTATTC
P53	CCGCAGTCAGATCCTAGCG AATCATCCATTGCTTGGGACG
CDK1	TAGCGCGGATCTACCATACC CATGGCTACCACTTGACCTGT
CDK2	CAGGATGTGACCAAGCCAGT TGAGTCCAAATAGCCCAAGG

CD44	AGCAACTGAGACAGCAACCA AGACGTACCAGCCATTTGTGT
METTL3	CAAGCTGCACTTCAGACGAA GCTTGGCGTGTGGTCTTT
METTL14	GACGGGGACTTCATTCATGC CCAGCCTGGTCGAATTGTAC
METTL16	GGCAGAAGGAGGTGAATTAGAG TTCCCAGCATGCAGCTATAC
WATP	ACTGGCCTAAGAGAGTCTGAAG GTTGCTAGTCGCATTACAAGGA
YTHDC1	GAGGGCCAAATCTCCTACGC GTCTCATGGTCAGAGCCATATTC
YTHDC2	AGGACATTCGCATTGATGAGG CTCTGGTCCCCGTATCGGA
IGF2BP1	GGCCATCGAGAATTGTTGCAG CCAGGGATCAGGTGAGACTG
IGF2BP2	AGCCTGTCACCATCCATGC CTTCGGCTAGTTTGGTCTCATC
IGF2BP3	ACGAAATATCCCGCCTCATTTAC GCAGTTTCCGAGTCAGTGTTCA
HNRNPA2B *1*	ATTGATGGGAGAGTAGTTGAGCC AATTCCGCCAACAAACAGCTT
HNRNPC	GTTACCAACAAGACAGATCCTCG AGGCAAAGCCCTTATGAACAG
ALKBH5	ACCCCATCCACATCTTCGAG CTTGATGTCCTGAGGCCGTA
FTO	AGACACCTGGTTTGGCGATA CCAAGGTTCCTGTTGAGCAC
18S	CAGCCACCCGAGATTGAGCA TAGTAGCGACGGGCGGTGTG
GAPDH	GAAGGTGAAGGTCGGAGT GAAGATGGTGATGGGATTTC
siFTO	GCAGAATGTCTGTGACGAT
siMETTL3	CGTCAGTATCTTGGGCAAGTT
siMETTL14	AAGGATGAGTTAATAGCTAAA
siALKBH5	GAAAGGCTGTTGGCATCAATA
siIGF2BP3	CTGGCAGAGTTATTGGAAA