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Supplemental Information

**miR-18a Contributes to Preeclampsia
by Downregulating Smad2 (Full Length)
and Reducing TGF- β Signaling**

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10      20      30      40      50      60      70      80      90
Smad2(437aa): MSSILPFTPPVVKRLLGWKKAGGSGGGGQNGQEEKWEKAVKSLVKKLKKTGHLDELEKATTQNCNTKCVTIPPSLDGRQVSHR :90
Smad2(425aa): MLQLQFSSII I VFLEAG I F LFFSNLAAP NVSSDSSTCSEIWGLSTPNTIDQWDTTGLYSFSEQT-----FSLDGRQVSHR :78
Smad2(418aa): MCYHTKIFSVDLLLSLLILFLCCIQSVKPT-----TCSEIWGLSTPNTIDQWDTTGLYSFSEQT-----FSLDGRQVSHR :71
Smad2(414aa): MCYHTK-----G I F LFFSNLAAP NVSSDSSTCSEIWGLSTPNTIDQWDTTGLYSFSEQT-----FSLDGRQVSHR :67

100     110     120     130     140     150     160     170     180
Smad2(437aa): KGLPHVIYICRLWRWPDLHSHHELKAI ENCEYAFNLKKDEVCVNPHYHYQRVETPVLPPVLPVRHTEI LTELPLDDYTHS I PENTNFPAGI :180
Smad2(425aa): KGLPHVIYICRLWRWPDLHSHHELKAI ENCEYAFNLKKDEVCVNPHYHYQRVETPVLPPVLPVRHTEI LTELPLDDYTHS I PENTNFPAGI :168
Smad2(418aa): KGLPHVIYICRLWRWPDLHSHHELKAI ENCEYAFNLKKDEVCVNPHYHYQRVETPVLPPVLPVRHTEI LTELPLDDYTHS I PENTNFPAGI :161
Smad2(414aa): KGLPHVIYICRLWRWPDLHSHHELKAI ENCEYAFNLKKDEVCVNPHYHYQRVETPVLPPVLPVRHTEI LTELPLDDYTHS I PENTNFPAGI :157

190     200     210     220     230     240     250     260     270
Smad2(437aa): EPQSNYIPETPPPGYI SEDGETSDQQLNQSMDTGSPAELSPPTLSPVNHSLDLQPVTYSEPAFWCSI AYYELNQRVGETFHASQPSLTVD :270
Smad2(425aa): EPQSNYIPETPPPGYI SEDGETSDQQLNQSMDTGSPAELSPPTLSPVNHSLDLQPVTYSEPAFWCSI AYYELNQRVGETFHASQPSLTVD :258
Smad2(418aa): EPQSNYIPETPPPGYI SEDGETSDQQLNQSMDTGSPAELSPPTLSPVNHSLDLQPVTYSEPAFWCSI AYYELNQRVGETFHASQPSLTVD :251
Smad2(414aa): EPQSNYIPETPPPGYI SEDGETSDQQLNQSMDTGSPAELSPPTLSPVNHSLDLQPVTYSEPAFWCSI AYYELNQRVGETFHASQPSLTVD :247

280     290     300     310     320     330     340     350     360
Smad2(437aa): GFTDPSNSERFCLGLLSNVNRNATVEMTRRHI GRGVRLYYI GGEVFAECLSDSAI FVQSPNCNQRYGWHHPATVCKI PPGCNLKIFNNQEF :360
Smad2(425aa): GFTDPSNSERFCLGLLSNVNRNATVEMTRRHI GRGVRLYYI GGEVFAECLSDSAI FVQSPNCNQRYGWHHPATVCKI PPGCNLKIFNNQEF :348
Smad2(418aa): GFTDPSNSERFCLGLLSNVNRNATVEMTRRHI GRGVRLYYI GGEVFAECLSDSAI FVQSPNCNQRYGWHHPATVCKI PPGCNLKIFNNQEF :341
Smad2(414aa): GFTDPSNSERFCLGLLSNVNRNATVEMTRRHI GRGVRLYYI GGEVFAECLSDSAI FVQSPNCNQRYGWHHPATVCKI PPGCNLKIFNNQEF :337

370     380     390     400     410     420     430
Smad2(437aa): AALLAQSVNQGF EAVYQLTRMCTIFNSFVKGWGAEYR RQTVTSTPCWI ELHLNGPLQWLDKVLTMGSPSVRCSSMS :437
Smad2(425aa): AALLAQSVNQGF EAVYQLTRMCTIFNSFVKGWGAEYR RQTVTSTPCWI ELHLNGPLQWLDKVLTMGSPSVRCSSMS :425
Smad2(418aa): AALLAQSVNQGF EAVYQLTRMCTIFNSFVKGWGAEYR RQTVTSTPCWI ELHLNGPLQWLDKVLTMGSPSVRCSSMS :418
Smad2(414aa): AALLAQSVNQGF EAVYQLTRMCTIFNSFVKGWGAEYR RQTVTSTPCWI ELHLNGPLQWLDKVLTMGSPSVRCSSMS :414

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Figure S1. Five conserved peptides and one Smad2(Δ exon3)-specific peptide were detected in mass spectrum analysis.

Red sequences indicated the Smad2(Δ exon3)-specific peptide. Blue sequences indicated the conserved peptides of different Smad2 variants.

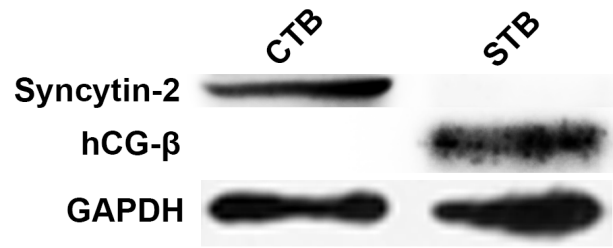


Figure S2. Validation of the identity of primary CTBs and STBs.

The expression levels of cell type markers, syncytin-2 and hCG- β respectively, were detected by Western blotting analysis.

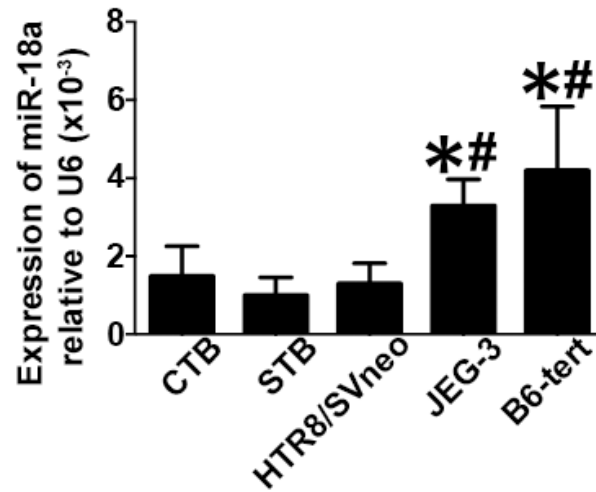


Figure S3. miR-18a expression levels in different cells.

Examination of miR-18a expression levels in primary CTBs, primary STBs, HTR8/SVneo, JEG-3 and B6-tert cells. Data are presented as mean \pm SD. * p <0.05 vs. the miR-18a level of primary CTB. # p <0.05 vs. the miR-18a level of primary STB.

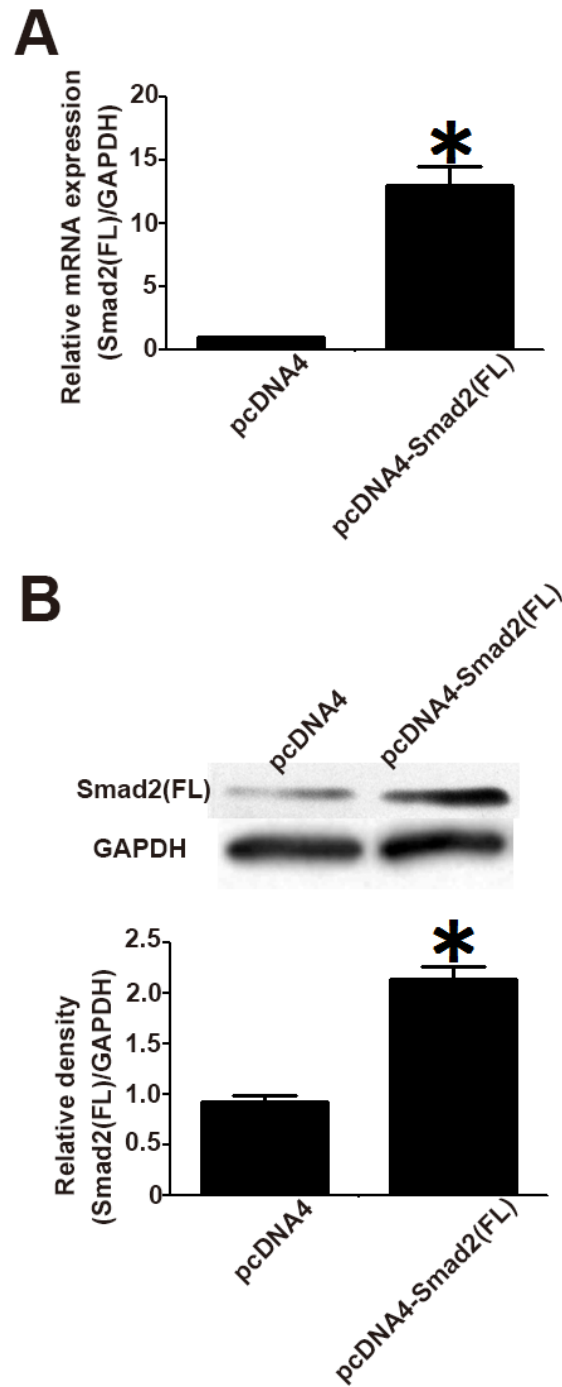


Figure S4. Validation of the accuracy of pcDNA4-Smad2(FL) plasmid.

The expression of Smad2(FL) in HTR8/SVneo cells transfected with pcDNA4-Smad2(FL) or pcDNA4 plasmid were measured by real-time PCR (A) and western blotting experiments (B). * $p < 0.05$.