

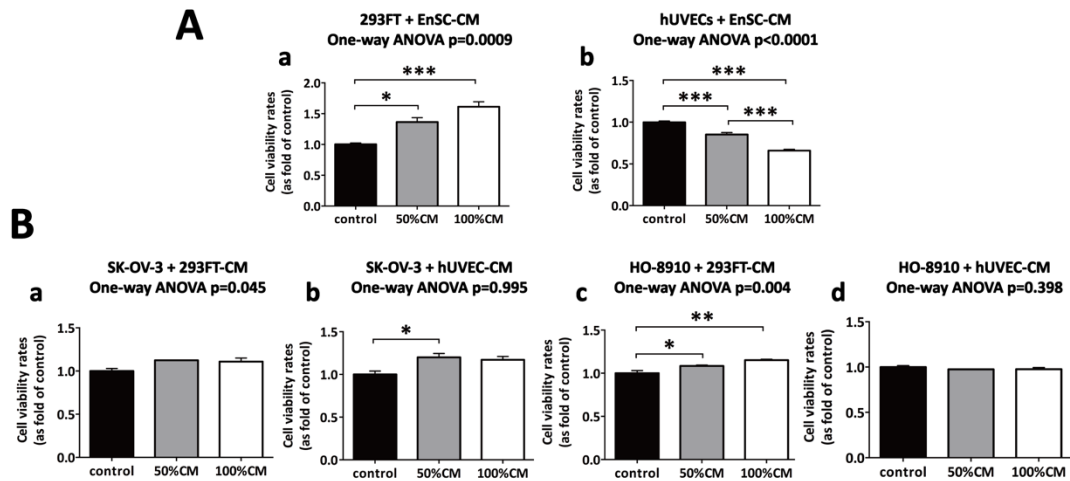
**Human endometrial mesenchymal stem cells exhibit intrinsic anti-tumor properties on human epithelial ovarian cancer cells.**

Shixia Bu<sup>1</sup>, Qian Wang<sup>1</sup>, Qiuwan Zhang<sup>1</sup>, Junyan Sun<sup>1</sup>, Biwei He<sup>1</sup>, Charlie Xiang<sup>2</sup>, Zhiwei Liu<sup>1\*</sup> and Dongmei Lai<sup>1\*</sup>

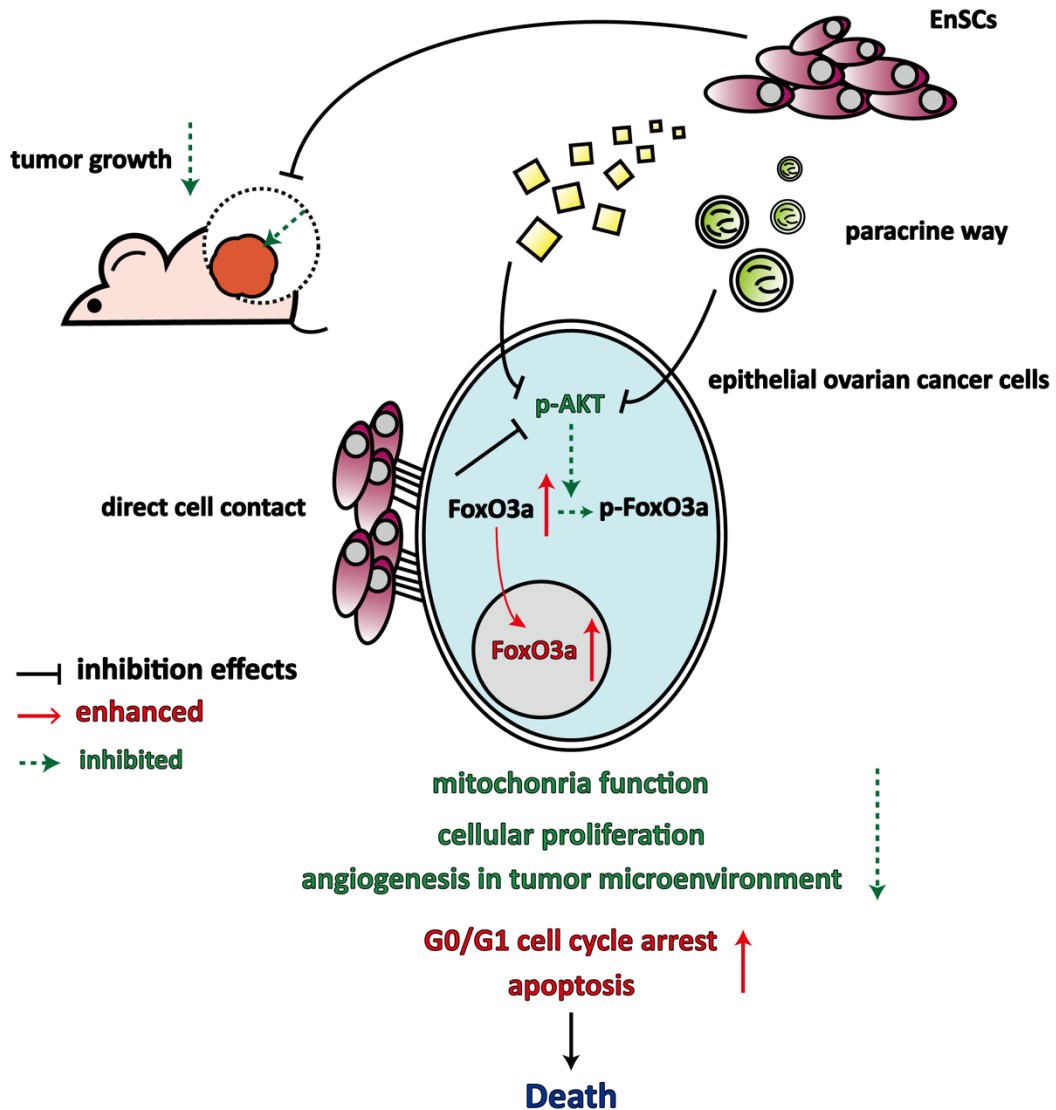
<sup>1</sup>The International Peace Maternity and Child Health Hospital, School of Medicine, Shanghai Jiaotong University, Shanghai 200030, China

<sup>2</sup>State Key Laboratory for Diagnosis and Treatment of Infectious Diseases, the First Affiliated Hospital, School of Medicine, Zhejiang University, Hangzhou 31000

**Correspondence information:** Professor Dongmei Lai & Zhiwei Liu, The International Peace Maternity and Child Health Hospital, School of Medicine, Shanghai Jiaotong University, Shanghai 200030, China. Telephone: 021-64070434; Fax: 86-21-64074642; e-mail: laidongmei@hotmail.com and liuzhiwei@hotmail.com.



**Supplementary Figure S1.** The anti-tumor properties of EnSCs against EOC cells through the paracrine pathway is specific. **(A):** CCK-8 cell viability assay was used to test the effects of EnSC-CM on the viability of non-malignant cells (293FT and hUVECs) at the 48th hour (n=3; performed in triplicate). **(B):** CCK-8 cell viability assay was used to test the effects of 293FT-CM and hUVEC-CM on the viability of EOC cells at the 48th hour (n=3; performed in triplicate). All data were shown as means  $\pm$  SEM. Ordinary one-way ANOVA was used for statistic analysis. \*p-value<0.05; \*\*p-value<0.01; \*\*\*p-value<0.001.



**Supplementary Figure S2.** A schematic diagram showed that EnSCs exhibited anti-tumor effects on EOC cells through inhibiting AKT phosphorylation and promoting nucleus translocation of FoxO3a in EOC cells in vivo and in vitro through both paracrine way and direct cell-cell contact way. The EnSC-induced transcriptional activity of FoxO3a induces mitochondria dysfunction, cellular growth inhibition, G0/G1 cell cycle arrest, apoptosis and inhibition of pro-angiogenic ability of EOC cells in vivo and in vitro.

### Supplementary Table S1

**Primers for real-time PCR analysis of human genes.**

<b>Gene</b>	<b>Primer sequence</b>	<b>Product size (bp)</b>
<b>18s RNA</b>	Forward: 5'-CGTTGATTAAGTCCCTGCCCTT-3' Reverse: 5'-TCAAGTTCGACCGTCTTCTCAG-3'	137
<b>PCNA</b>	Forward: 5'-TTCCTGTGCAAAGACGGAG-3' Reverse: 5'-TCACCGTTGAAGAGAGTGGA-3'	197
<b>Ki-67</b>	Forward: 5'-GAGGCAAATCATCCGAACCC-3' Reverse: 5'-TTATTTTGGCGTCTGGAGCG-3'	181
<b>Bcl-2</b>	Forward: 5'-ATGTGTGTGGAGAGCGTCAACC-3' Reverse: 5'-TGAGCAGAGTCTTCAGAGACAGCC-3'	196
<b>Bax</b>	Forward: 5'-AAGAAGCTGAGCGAGTGTCT-3' Reverse: 5'-TGGCAAAGTAGAAAAGGGCG-3'	184
<b>Bcl-x<sub>L</sub></b>	Forward: 5'-AGTTCAGCACCACCCTAGTC-3' Reverse: 5'-GCTGTTCCCTGATAGCTCCCT-3'	212
<b>Bad</b>	Forward: 5'-GAGTGACGAGTTTGTGGACT-3' Reverse: 5'-TTTCGGGATGTGGAGCGAA-3'	178
<b>AKT1</b>	Forward: 5'-TCGGCAAGGTGATCCTGGTGAA-3' Reverse: 5'-CGGTCGTGGGTCTGGAAGAGT-3'	184
<b>AKT2</b>	Forward: 5'-AGGAGATGGAAGTGGCGGTCAG-3' Reverse: 5'-GGTCGTGGGTCTGGAAGGCATA-3'	270
<b>AKT3</b>	Forward: 5'-GCAAAGGATGAAGTGGCACACA-3' Reverse: 5'-TCCTCAGAGAACACCCGCTCTC-3'	182

<b>PTEN</b>	Forward: 5'-GAGGCAGCCGTTCCGGAGGATTA-3' Reverse: 5'-ATGGCTCTGGACTTGGCGGTAG-3'	196
-------------	---------------------------------------------------------------------------------	-----