

Supporting Information

Selenium-Doped Hydroxyapatite Biopaper with Anti-Bone Tumor Effect by Inducing Apoptosis

Zi-Fei Zhou,^{a,#} Tuan-Wei Sun,^{b,#} Yun-Hao Qin,^{c,#} Ying-Jie Zhu,^{b,*} Ying-Ying Jiang,^a Yang Zhang,^a Jun-Jian Liu,^a Jin Wu,^b Shi-Sheng He^{a,*} and Feng Chen^{a,*}

^a Department of Orthopedics, Spinal Pain Research Institute, Shanghai Tenth People's Hospital, Tongji University School of Medicine, Shanghai 200072, P.R. China.

^b State Key Laboratory of High Performance Ceramics and Superfine Microstructure, Shanghai Institute of Ceramics, Chinese Academy of Sciences, Shanghai 200050, P. R. China.

^c Department of Orthopedics, Shanghai Jiaotong University Affiliated Sixth People's Hospital, Shanghai 200030, P.R. China.

These authors contributed equally.

*Corresponding Author

E-mail addresses: fchen@tongji.edu.cn (F. Chen); tjhss7418@tongji.edu.cn (S.S. He); y.j.zhu@mail.sic.ac.cn (Y.J. Zhu)

Supporting Figures

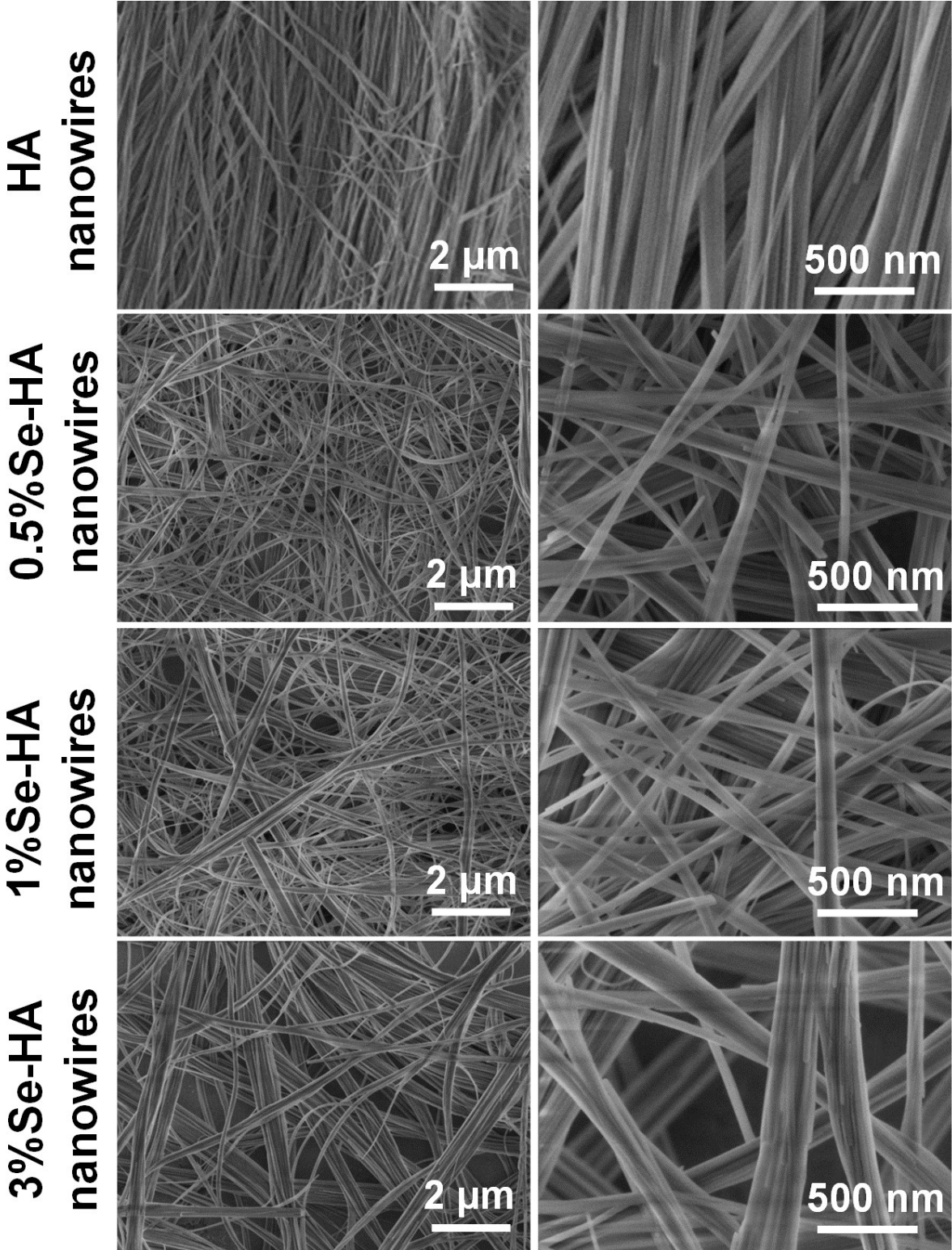


Figure S1. SEM micrographs of HA nanowires and Se-HA nanowires with different doping ratios.

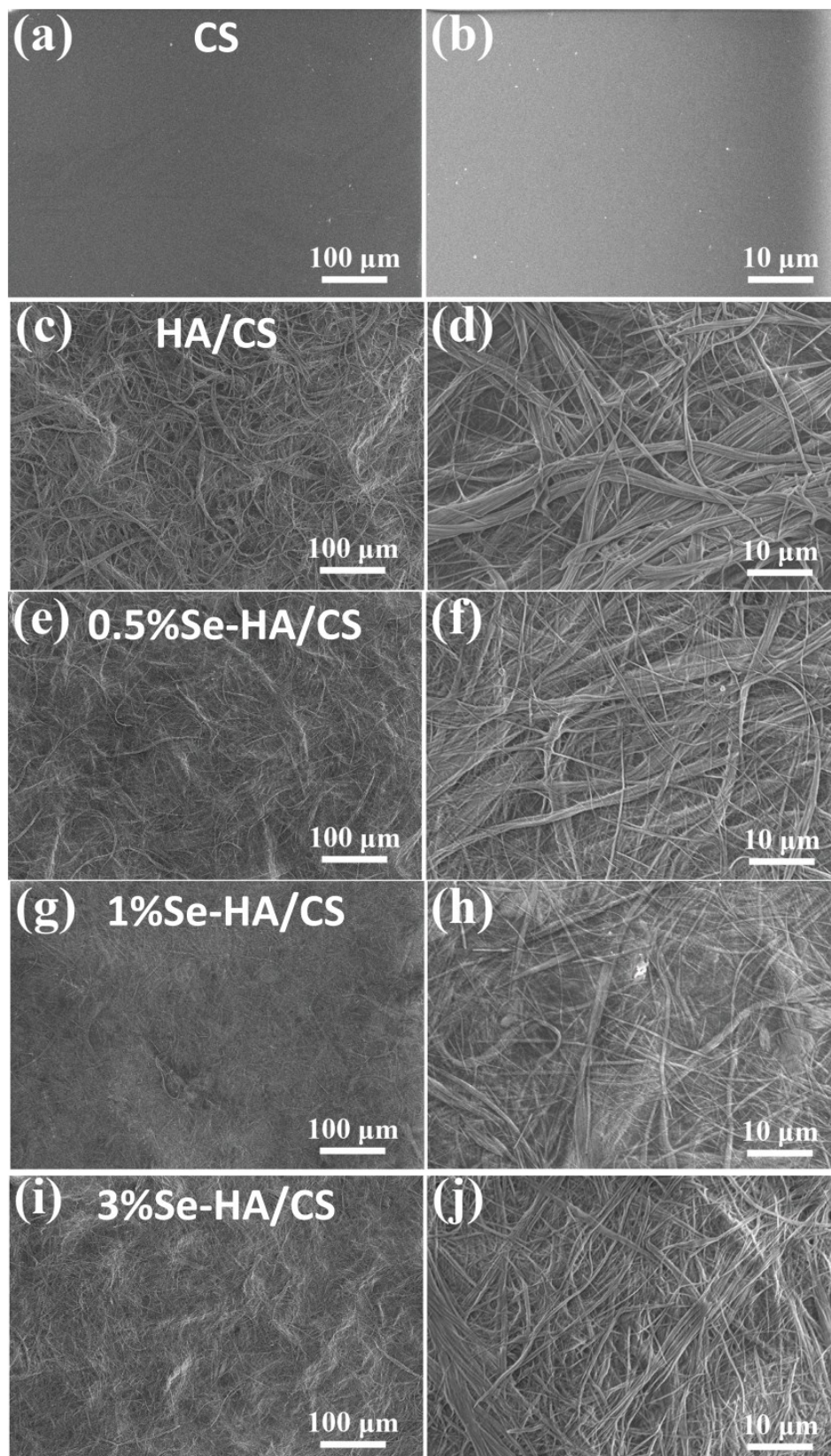


Figure S2. SEM micrographs of CS (a,b) , HA/CS (c,d), and Se-HA/CS (e-j) biopapers with different doping ratios.

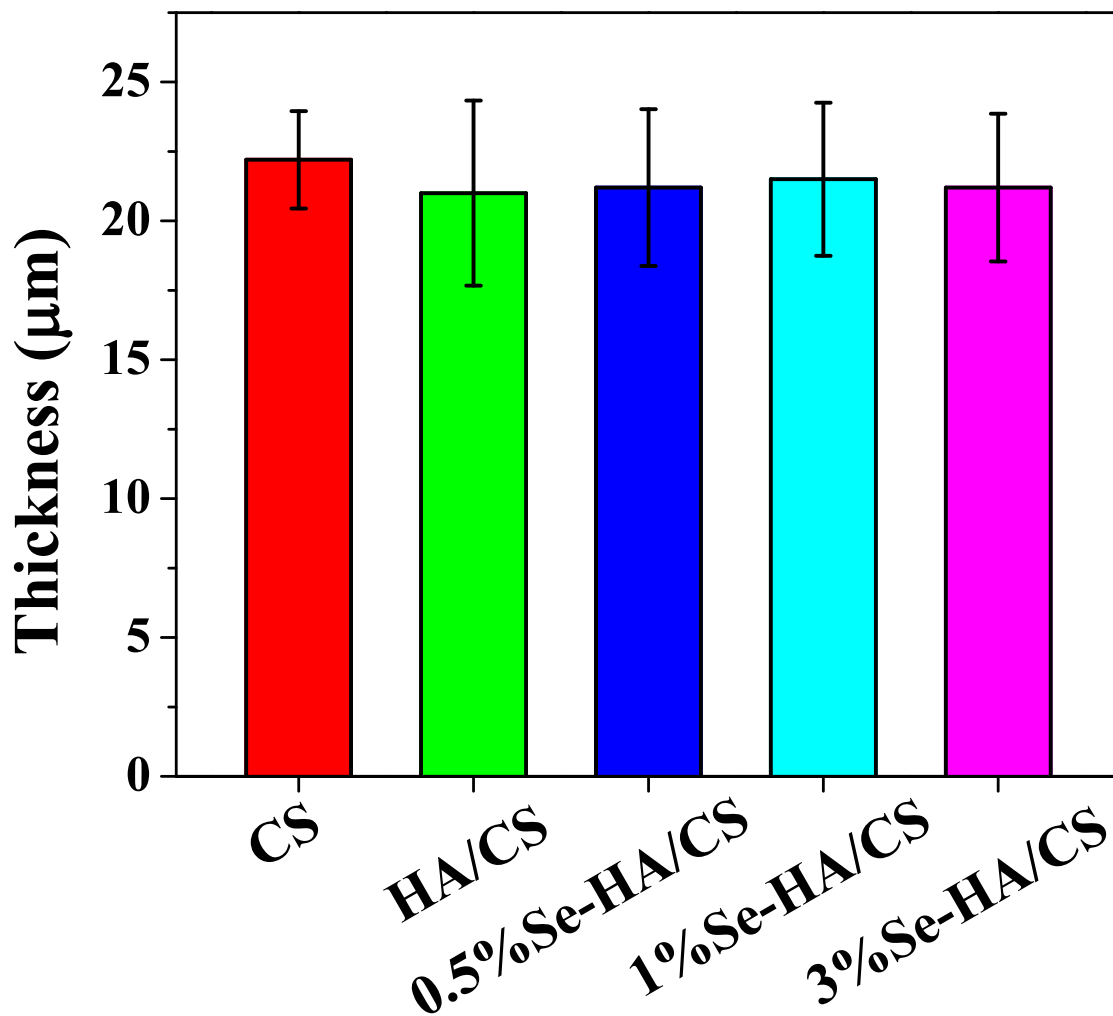


Figure S3. The thickness of CS, HA/CS, and Se-HA/CS biopapers with different doping ratios.

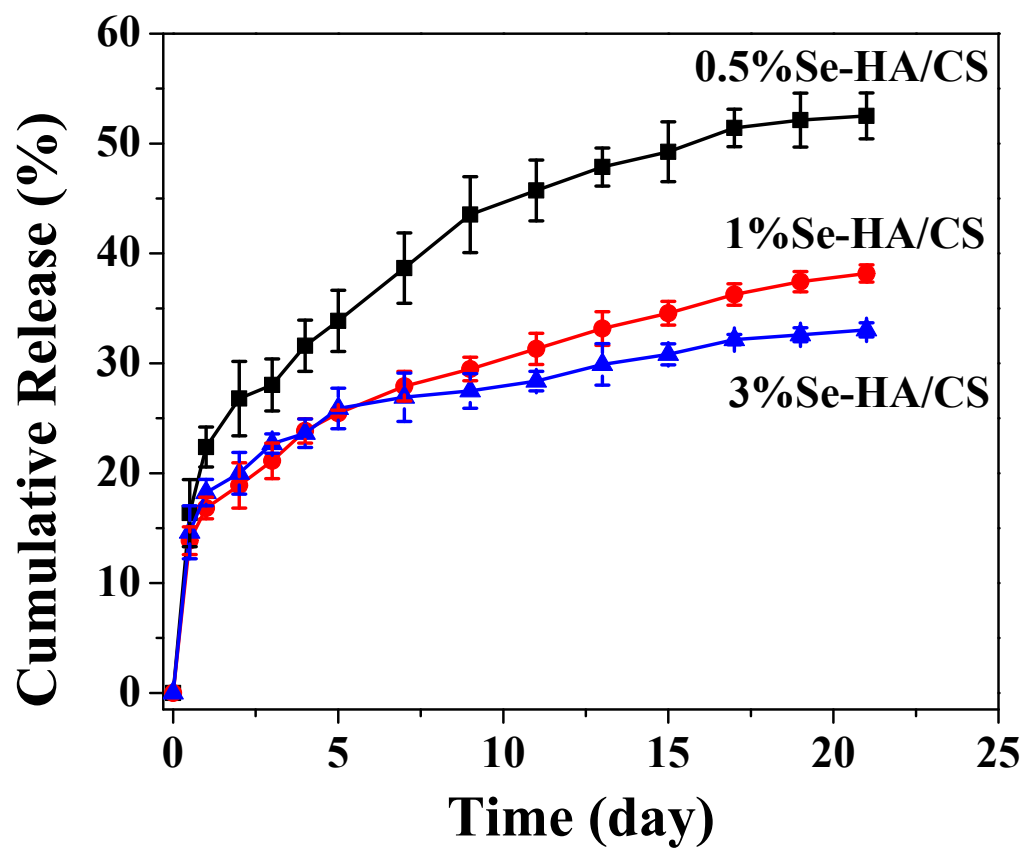


Figure S4. The cumulative release percentage of Se element from Se-HA/CS biopapers with different Se doping ratios.

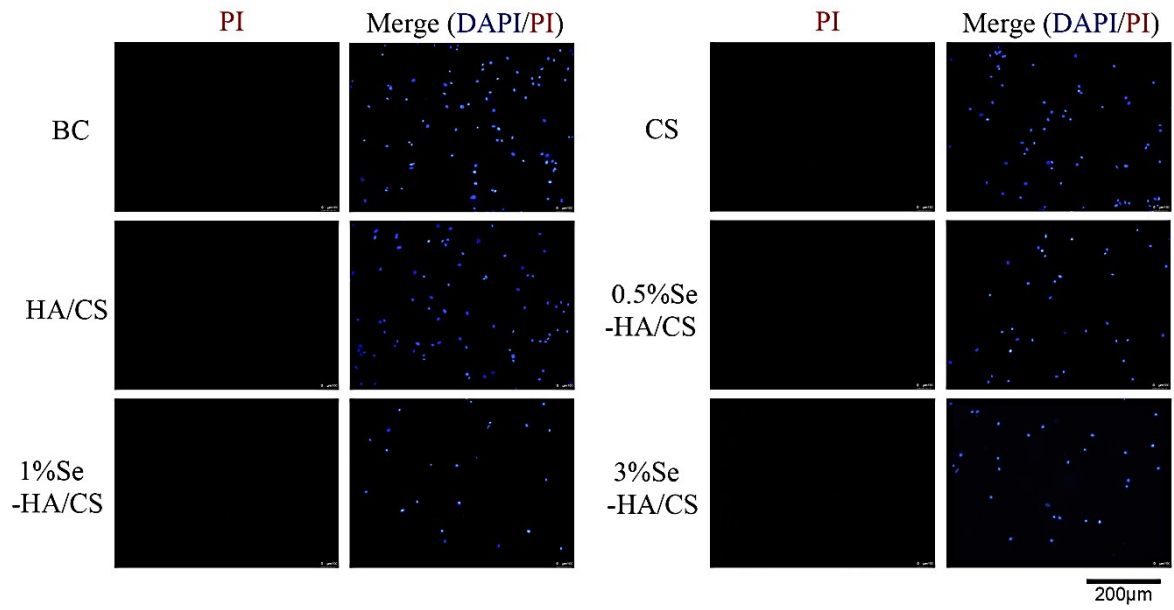


Figure S5. No significant apoptosis was observed in the hBMSCs cultured on blank control, CS, HA/CS, and Se-HA/CS biopapers after 48 hours.

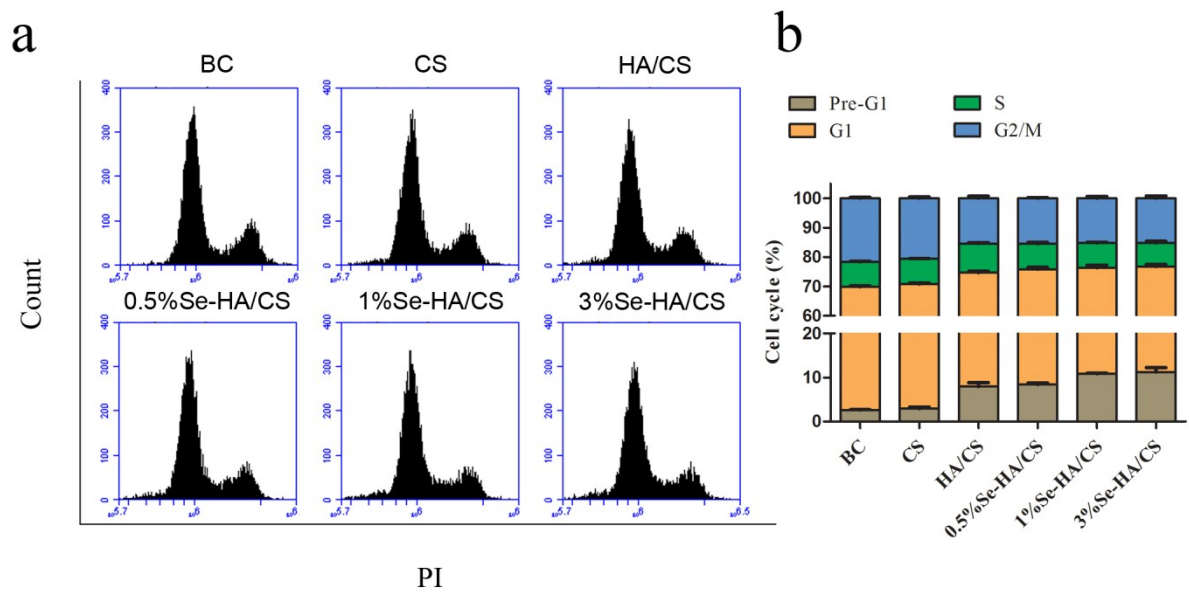


Figure S6. The HCS 2/8 chondrosarcoma cells incubated on Se-HA/CS biopapers show higher pre-apoptosis rate than blank control, CS and HA/CS, while there is no significant changes on the cell cycle.

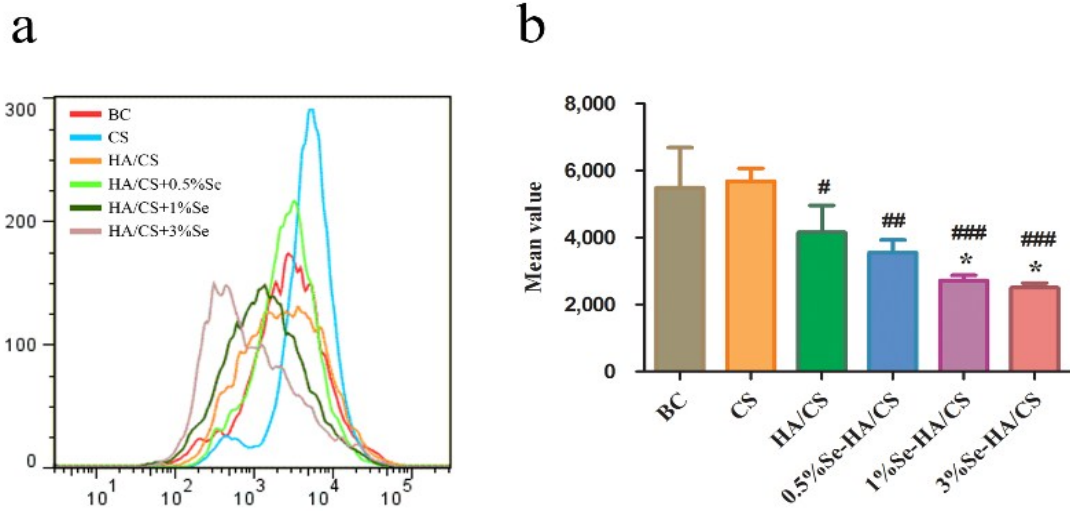


Figure S7. ROS levels in hBMSCs after they contact with the Se-HA/CS biopapers for two days. As the addition of HA and Se, the cellular ROS level was reduced, compared with the other BC and CS groups. *: compared with BC group. #: compared with CS groups. * or # : $p < 0.05$, ##: $p < 0.01$, ###: $p < 0.005$.