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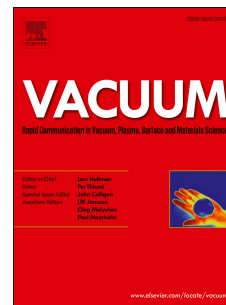
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Simultaneous process of surface modification and sterilization for polystyrene dish

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Abstract

Surface modification of polystyrene (PS) dish used for cell culture substrate is necessary to enhance cell adhesion and spreading. Generally, plasma treatment is employed for enhancement of hydrophilic surface at the PS dish surface, and sterilization treatment of the PS dish is performed after the plasma treatment. Simultaneous process of the surface modification and sterilization is required, and we have investigated surface modification effects on the PS dish in a sterilization bag by using active oxygen species (AOS) generated via ultraviolet (UV) lamps. It is considered that excited oxygen molecules ($^1\text{O}_2$) as well as ozone (O_3) generated via the UV lamps greatly affect surface modification of the PS dish in the sterilization bag.

Cell adhesion and spreading characteristics of the modified PS dish by the AOS were almost the same level as those onto the commercially available PS dish. In addition,

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