

ФИНАНСИРОВАНИЕ РАБОТЫ

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СОБЛЮДЕНИЕ ЭТИЧЕСКИХ СТАНДАРТОВ

Все процедуры с лабораторными животными проводили в соответствии с Руководством Национального института здравоохранения по уходу и использованию лабораторных животных (<http://oacu.od.nih.gov/regs/index.htm>) и были одобрены экспертным комитетом по биомедицинской этике Казанского федерального университета (протокол № 3 от 5 мая 2015 г.; Казань, Россия).

КОНФЛИКТ ИНТЕРЕСОВ

Авторы заявляют об отсутствии конфликта интересов

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MICROVESICLES FROM MESENCHYMAL STEM CELLS FOR CARTILAGE TISSUE REGENERATION IN EQUINE OSTEOARTHRITIS

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Current treatment strategies for osteoarthritis primarily focus on symptom management. Currently, the use of cell therapy methods, including mesenchymal stem cells (MSCs), is practiced in medicine and veterinary medicine. Microvesicles (MVs) obtained from MSCs are also currently used for the purpose of regeneration. The purpose of this study was to investigate the potential effects of artificial MVs on rat chondrocytes. In vitro experiments showed that MVs obtained from MSCs had a positive effect on the viability and migration ability of the chondrocyte cell culture. In 3D modeling of OA in vitro, MVs neutralized the effect of pro-inflammatory factors IL-1b and TNF- α . Most likely, these effects were due to the direct penetration of MVs contents into chondrocytes, since The possibility of fusion of MVs membranes with chondrocyte membranes was experimentally demonstrated. Thus, we have shown the positive effect of MVs on an in vitro model of OA.

Keywords: mesenchymal stem cells, horse, chondrocytes, cartilage tissue, rat, microvesicles, osteoarthritis