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Influence of genetically modified human umbilical cord blood mononuclear cells on the expression of schwann cell molecular determinants in spinal cord injury

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Abstract

Copyright © 2018 L. R. Galieva et al. Spinal cord injury (SCI) unavoidably results in death of not only neurons but also glial cells. In particular, the death of oligodendrocytes leads to impaired nerve impulse conduction in intact axons. However, after SCI, the Schwann cells (SCs) are capable of migrating towards an area of injury and participating in the formation of functional myelin. In addition to SCI, cellbased therapy can influence the migration of SCs and the expression of their molecular determinants. In a number of cases, it can be explained by the ability of implanted cells to secrete neurotrophic factors (NTFs). Genetically modified stem and progenitor cells overexpressing NTFs have recently attracted special attention of researchers and are most promising for the purposes of regenerative medicine. Therefore, we have studied the effect of genetically modified human umbilical cord blood mononuclear cells on the expression of SC molecular determinants in SCI.

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