Neuroreport 1998 Jun 22;9(9):2071-2075

IFN-gamma induces coordinate expression of MHC class I-mediated antigen presentation machinery molecules in adult mouse Schwann cells.

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The expression of major histocompatibility complex (MHC) class I molecules on adult mouse Schwann cells (SCs) was examined using immunofluorescence analysis. MHC class I molecules were not expressed on the surface of untreated SCs. Interferon (IFN)-gamma treatment induced expression of the molecules on the SCs. Expression of genes coding for the molecules involved in MHC class I-mediated antigen presentation was also analysed in SCs by reverse transcription-polymerase chain reaction (RT-PCR). Expression of MHC class I heavy chain genes was faintly detected in untreated SCs. IFN-gamma treatment augmented the expression. In addition, IFN-gamma induced expression of the genes for beta2-microglobulin, the peptide transporter TAP-1 and the proteasomal subunit LMP-2, whose expression was not detected in untreated SCs. The expressions of MHC class II molecules and their genes were not detected even after IFN-gamma treatment. These data suggest that MHC class I-mediated antigen presentation machinery functions in adult mouse SCs and that the SCs themselves work as antigen presenting cells and as targets for cytotoxic T cells in some physiological conditions.