



Short communication

Neuropeptide FF receptor modulates potassium currents in a dorsal root ganglion cell line

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Abstract:

This study investigated the presence of neuropeptide FF (NPFF) receptors on F-11 cells, a hybridoma derived from rat dorsal root ganglia (DRG) and mouse neuroblastoma. Binding experiments revealed a low density (4 fmol/mg) of high affinity (0.5 nM) [³H]-EYF binding sites in these cells. The whole-cell planar patch-clamp technique showed that dNPA, a selective NPFF₂ agonist, increased the voltage-dependent potassium outward currents (about 30 pA/pF) by 21%; this reversible effect on sustained delayed potassium currents is blocked by tetraethylammonium. The similar effects of NPFF and opioid agonists on K⁺ currents in this cell line may explain their similar antinociceptive actions at the spinal level.

Key words:

Neuropeptide FF, receptor, neuroblastoma F-11 cell, K⁺ current, opioid
