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Neuropeptide Y receptors (version 2019.4) in the IUPHAR/BPS Guide to Pharmacology Database

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Abstract

Neuropeptide Y (NPY) receptors (**nomenclature as agreed by the NC-IUPHAR Subcommittee on Neuropeptide Y Receptors [156]**) are activated by the endogenous peptidesneuropeptide Y, neuropeptide Y-(3-36), peptide YY, PYY-(3-36) and pancreatic polypeptide (PP). The receptor originally identified as the Y3 receptor has been identified as the CXCR4 chemokine recepter (originally named LESTR, [137]). The y6 receptor is a functional gene product in mouse, absent in rat, but contains a frame-shift mutation in primates producing a truncated non-functional gene [83]. Many of the agonists exhibit differing degrees of selectivity dependent on the species examined. For example, the potency of PP is greater at the rat Y_4 receptor than at the human receptor [61]. In addition, many agonists lack selectivity for individual subtypes, but can exhibit comparable potency against pairs of NPY receptor subtypes, or have not been examined for activity at all subtypes. [^{125}I]-PYY or [^{125}I]-NPY can be used to label Y_1, Y_2, Y_5 and y_6 subtypes non-selectively, while [^{125}I][cPP(1-7), NPY(19-23), Ala^{31}, Aib^{32}, Gln^{34}]hPP may be used to label Y_5 receptors preferentially (note that cPP denotes chicken peptide sequence and hPP is the human sequence).

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