

VIP and PACAP receptors (version 2019.4) in the IUPHAR/BPS Guide to Pharmacology Database

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Abstract

Vasoactive intestinal peptide (VIP) and pituitary adenylate cyclase-activating peptide (PACAP) receptors (**nomenclature as agreed by the NC-IUPHAR Subcommittee on Vasoactive Intestinal Peptide Receptors [64, 65]**) are activated by the endogenous peptides **VIP**, **PACAP-38**, **PACAP-27**, peptide histidine isoleucineamide (**PHI**), peptide histidine methionineamide (**PHM**) and peptide histidine valine (**PHV**). VPAC₁ and VPAC₂ receptors display comparable affinity for the PACAP peptides, **PACAP-27** and **PACAP-38**, and **VIP**, whereas **PACAP-27** and **PACAP-38** are >100 fold more potent than **VIP** as agonists of most isoforms of the PAC₁ receptor. However, one splice variant of the human PAC₁ receptor has been reported to respond to **PACAP-38**, **PACAP-27** and **VIP** with comparable affinity [29]. PG 99-465 [115] has been used as a selective VPAC₂ receptor antagonist in a number of physiological studies, but has been reported to have significant activity at VPAC₁ and PAC₁ receptors [35]. The selective PAC₁ receptor agonist **maxadilan**, was extracted from the salivary glands of sand flies (*Lutzomyia longipalpis*) and has no sequence homology to **VIP** or the PACAP peptides [116]. Two deletion variants of **maxadilan**, **M65** [180] and **Max.d.4** [117] have been reported to be PAC₁ receptor antagonists, but these peptides have not been extensively characterised.

Contents

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