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Bombesin receptors in GtoPdb v.2021.2

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Abstract

Mammalian bombesin (Bn) receptors comprise 3 subtypes: BB_1, BB_2, BB_3 (**nomenclature recommended by the NC-IUPHAR Subcommittee on bombesin receptors, [115]**). BB_1 and BB_2 are activated by the endogenous ligands neuromedin B (NMB), gastrin-releasing peptide (GRP), and GRP-(18-27). bombesin is a tetra-decapeptide, originally derived from amphibians. The three Bn receptor subtypes couple primarily to the $G_{q/11}$ and $G_{12/13}$ family of G proteins [115]. Each of these receptors is widely distributed in the CNS and peripheral tissues [78, 115, 249, 278, 237, 362]. Activation of BB_1 and BB_2 receptors causes a wide range of physiological/pathophysiogical actions, including the stimulation of normal and neoplastic tissue growth, smooth-muscle contraction, gastrointestinal motility, feeding behavior, secretion and many central nervous system effects including regulation of circadian rhythm, body temperature control, sighing and mediation of pruritus [149, 202, 244, 115, 196, 249, 306, 68, 34, 332]. A physiological role for the BB_3 receptor has yet to be fully defined although recently studies suggest an important role in glucose and insulin regulation, metabolic homeostasis, feeding, regulation of body temperature, obesity, diabetes mellitus and growth of normal/neoplastic tissues [148, 78, 162, 214, 346, 200]. Bn receptors are one of the most frequently overexpressed receptors in cancers and are receiving increased attention for their roles in tumor growth, as well as for tumour imaging and for receptor targeted cytotoxicity [202, 276, 8, 161].

Contents

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BB_3 receptor

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