

MC4R Rabbit mAb

Catalog # AP77904

Product Information

Application	WB
Primary Accession	P32245
Reactivity	Rat, Human, Mouse
Host	Rabbit
Clonality	Monoclonal Antibody
Isotype	IgG
Conjugate	Unconjugated
Immunogen	A synthesized peptide derived from human MC4 Receptor
Purification	Affinity Chromatography
Calculated MW	36943

Additional Information

Gene ID	4160
Other Names	MC4R
Dilution	WB~~1/500-1/1000
Format	Liquid in 10mM PBS, pH 7.4, 150mM sodium chloride, 0.05% BSA, 0.02% sodium azide and 50% glycerol.
Storage	Store at 4°C short term. Aliquot and store at -20°C long term. Avoid freeze/thaw cycles.

Protein Information

Name	MC4R (HGNC:6932)
Function	G protein-coupled receptor that binds melanocyte-stimulating hormones (alpha- and beta-MSH) and corticotropin/ACTH, which are peptide products of the POMC precursor (PubMed: 12646665 , PubMed: 14764818 , PubMed: 25163632 , PubMed: 32327598 , PubMed: 33858992 , PubMed: 8392067). Functions as a central component of the leptin-melanocortin pathway, which is essential for maintaining energy homeostasis (PubMed: 32327598 , PubMed: 33858992). Upon activation, couples to G(s) protein, stimulating adenylate cyclase and the cAMP- dependent signaling pathway, which promotes anorexogenic signaling in the hypothalamus and contributes to a negative energy balance (PubMed: 12588803 , PubMed: 14764818 , PubMed: 25163632 , PubMed: 33858992). Regulates food intake: activation by agonists suppresses appetite, whereas the antagonist Agouti-related protein/AGRP precludes agonist- induced signaling, thereby stimulating appetite (PubMed: 9311920). Modulates the firing activity of

neurons in paraventricular nucleus (PVN) of the hypothalamus via alpha-MSH and AGRP regulation of inwardly rectifying potassium channel KCNJ13 closure, independently of G(s) signaling (PubMed:[32327598](#)). In the PVN, also interacts with opsin 3/OPN3, which couples to G(i/o) proteins to inhibit MC4R-mediated cAMP signaling, thereby promoting food intake (PubMed:[39951488](#)). In intestinal epithelial cells, contributes to inhibition of hepatic glucose production via nesfatin-1/NUCB2, leading to increased cAMP levels and glucagon-like peptide 1 (GLP-1) secretion (PubMed:[39562740](#)). Interaction with MGRN1 displaces the G(s) protein, further decreasing MC4R signaling activity (PubMed:[19737927](#)). Also activated by gamma-MSH, though with low potency (PubMed:[8392067](#)).

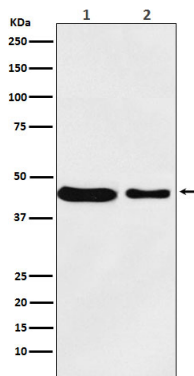
Cellular Location

Cell membrane; Multi-pass membrane protein

Tissue Location

Brain, placental, and gut tissues.

Images



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