

MC3R antibody

Catalog No.: 15-288-21207

Quantity: 0.1 mg

Background: The melanocortin (MC) peptides are regulatory peptides derived by post-translational processing of the larger pro-opiomelanocortin (POMC) precursor, and include the adrenocorticotrophic hormone (ACTH) and the melanocyte stimulating hormones (alpha, beta and gamma MSH). The melanocortins are produced primarily in the anterior and intermediate lobes of the pituitary, in the arcuate nucleus of the hypothalamus, and to a lower level in various other peripheral tissues. In addition to their well established melanotropic and adrenocorticotrophic actions, these peptides have been reported to exert a broad variety of physiological actions including those related to central neural function such as behavior, memory, cognition, and regulation of feeding. Melanocortin peptides mediate their action through G-protein coupled receptors. Five melanocortin receptors (MCRs) are known to exist. These include the melanocortin receptors MC1R to MC5R. The melanocortin receptors are differentially distributed and expressed in the brain and various tissues in the periphery. MC3R is a 360 amino acid transmembrane protein belonging to the G-protein coupled receptor family. The melanocortin 3 receptor (MC3R) is expressed primarily in the adult central nervous system at high levels in a restricted number of neurons of the hypothalamus and the limbic system. The expression of the MC3R in the developing rat brain increases suggesting that this receptor may mediate the neurotrophic actions of the melanocortin peptides. The MC3 receptor is also found in the gut and placenta, in adipose tissue and skeletal muscle. The MC3 receptor has been proposed to mediate the actions of MSH, in particular those of alpha-MSH and gamma-MSH peptides. MC3R appears to play a central role in mediating the effect of the melanocortin system on energy homeostasis. Alpha-MSH or synthetic agonists cause anorexia and weight loss. Agouti-related protein (AGRP), a physiological antagonist of MC3R and MC4R, can induce hyperphagia and obesity. MC3R is thought to regulate fat stores by a metabolic pathway. MC3R knockout mice (MC3R^{-/-}) have increased fat mass, but not high body mass index, are hyperleptinaemic and develop mild hyperinsulinaemia. In contrast to MC3R, MC4R primarily controls food intake, suggesting that both MC3 and MC4 receptors may play a complementary role in weight control.

Host / Isotype: Chicken

Immunogen: Synthetic peptide corresponding to the N-terminal region of rat melanocortin-3 receptor (amino acids 15-33, with C-terminally added lysine), conjugated to keyhole limpet hemocyanin (KLH).

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Format:	Purification: IgG fraction Buffer System: Preservative: 15mM sodium Azide; Constituents: 0.01M PBS. pH 7.4
Applications:	WB Other applications not tested. Optimal dilutions are dependent on conditions and should be determined by the user.
Specificity:	Cross-reacts with Rat. Expected to cross-react with Mouse (89% identity with immunogen) due to sequence homology. Not yet tested in other species.

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