SANTA CRUZ BIOTECHNOLOGY, INC.

MC2-R (H-70): sc-13107

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The melanocortin family comprises the α-, β- and γ- melanocyte stimulating hormones (MSH) and adrenocorticotrophin. The receptors for these hormones are seven-transmembrane G protein-coupled proteins that activate adenylyl cyclase. Five melanocortin receptors have been cloned and shown to exhibit different affinities and patterns of expression. MC1-R (MSH-R) is expressed in melanocytes and corticoadrenal tissue. MC2-R is the ACTH receptor and is expressed primarily in the adrenal cortex. MC3-R has been found in specific regions of the brain and is also expressed in placenta and gut. MC4-R is expressed primarily in brain, while MC5-R is expressed at low levels in most tissues.

REFERENCES

1. Mountjoy, K.G., et al. 1992. The cloning of a family of genes that encode the melanocortin receptors. Science 257: 1248-1251.
2. Chhajlani, V., et al. 1992. Molecular cloning and expression of the human melanocyte stimulating hormone receptor cDNA. FEBS Lett. 309: 417-420.
3. Gantz, I., et al. 1993. Molecular cloning of a novel melanocortin receptor. J. Biol. Chem. 268: 8246-8250.
4. Roselli-Rehfuss, L., et al. 1993. Identification of a receptor for γ melanotropin and other proopiomelanocortin peptides in the hypothalamus and limbic system. Proc. Natl. Acad. Sci. USA 90: 8856-8860.
5. Gantz, I., et al. 1993. Molecular cloning, expression and gene localization of a fourth melanocortin receptor. J. Biol. Chem. 268: 15174-15179.
6. Chhajlani, V., et al. 1993. Molecular cloning of a novel human melanocortin receptor. Biochem. Biophys. Res. Commun. 195: 866-873.

CHROMOSOMAL LOCATION

Genetic locus: MC2R (human) mapping to 18p11.21; Mc2r (mouse) mapping to 18 E2.

SOURCE

MC2-R (H-70) is a rabbit polyclonal antibody raised against amino acids 64-133 mapping within an internal region of MC2-R of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.

APPLICATIONS

MC2-R (H-70) is recommended for detection of MC2-R of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

MC2-R (H-70) is also recommended for detection of MC2-R in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for MC2-R siRNA (h): sc-40109, MC2-R siRNA (m): sc-40110, MC2-R shRNA Plasmid (h): sc-40109-SH, MC2-R shRNA Plasmid (m): sc-40110-SH, MC2-R shRNA (h) Lentiviral Particles: sc-40109-V and MC2-R shRNA (m) Lentiviral Particles: sc-40110-V.

Molecular Weight of MC2-R: 33 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/ 2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Ito, N., et al. 2005. Human hair follicles display a functional equivalent of the hypothalamic-pituitary-adrenal axis and synthesize cortisol. FASEB J. 19: 1332-1334.
2. Park, H.J., et al. 2007. Adrenocorticotropin hormone stimulates interleukin-18 expression in human HaCaT keratinocytes. J. Invest. Dermatol. 127: 1210-1216.
3. Doufexis, M., et al. 2007. Interaction of the melanocortin 2 receptor with nucleoporin 50: evidence for a novel pathway between a G protein-coupled receptor and the nucleus. FASEB J. 21: 4095-4100.
4. Artigas, R.A., et al. 2008. A novel adrenocorticotropin receptor mutation alters its structure and function, causing familial glucocorticoid deficiency. J. Clin. Endocrinol. Metab. 93: 3097-3105.
5. Uschold-Schmidt, N., et al. 2012. Chronic psychosocial stress results in sensitization of the HPA axis to acute heterotypic stressors despite a reduction of adrenal *in vitro* ACTH responsiveness. Psychoneuroendocrinology 37:1676-1687.
6. Cirillo, N., et al. 2012. Characterization of a novel oral glucocorticoid system and its possible role in disease. J. Dent. Res. 91: 97-103.