

MC4-R (C-10): sc-55567

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 adenyl 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.

CHROMOSOMAL LOCATION

Genetic locus: MC4R (human) mapping to 18q21.32; Mc4r (mouse) mapping to 18 E1.

SOURCE

MC4-R (C-10) is a mouse monoclonal antibody raised against amino acids 5-60 mapping near the N-terminus of MC4-R of human origin.

PRODUCT

Each vial contains 200 μ g IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

MC4-R (C-10) is available conjugated to agarose (sc-55567 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-55567 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-55567 PE), fluorescein (sc-55567 FITC), Alexa Fluor® 488 (sc-55567 AF488), Alexa Fluor® 546 (sc-55567 AF546), Alexa Fluor® 594 (sc-55567 AF594) or Alexa Fluor® 647 (sc-55567 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-55567 AF680) or Alexa Fluor® 790 (sc-55567 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

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

APPLICATIONS

MC4-R (C-10) is recommended for detection of MC4-R of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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).

Suitable for use as control antibody for MC4-R siRNA (h): sc-35873, MC4-R siRNA (m): sc-35874, MC4-R shRNA Plasmid (h): sc-35873-SH, MC4-R shRNA Plasmid (m): sc-35874-SH, MC4-R shRNA (h) Lentiviral Particles: sc-35873-V and MC4-R shRNA (m) Lentiviral Particles: sc-35874-V.

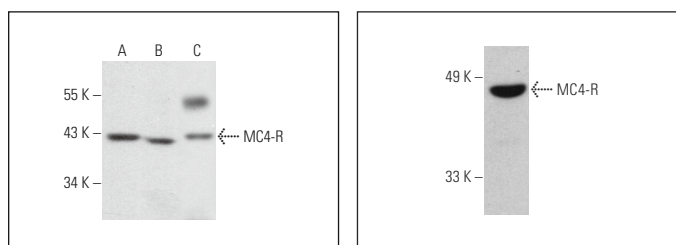
Molecular Weight of MC4-R: 40 kDa.

Positive Controls: EOC 20 whole cell lysate: sc-364187, K-562 whole cell lysate: sc-2203 or SP2/O whole cell lysate: sc-364795.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



MC4-R (C-10): sc-55567. Western blot analysis of MC4-R expression in EOC 20 (A), K-562 (B) and SP2/O (C) whole cell lysates.

MC4-R (C-10) HRP: sc-55567 HRP. Direct western blot analysis of MC4-R expression in EOC 20 whole cell lysate.

SELECT PRODUCT CITATIONS

- Wang, L., et al. 2019. α -melanocyte stimulating hormone (α -MSH) promotes osteoblast differentiation of MC3T3-E1 cells. *Eur. J. Pharmacol.* 844: 1-8.
- Flores-Bastías, O., et al. 2019. Activation of melanocortin-4 receptor by a synthetic agonist inhibits ethanol-induced neuroinflammation in rats. *Curr. Pharm. Des.* 25: 4799-4805.
- Bouvier, M.L., et al. 2020. Sex-dependent alterations of dopamine receptor and glucose transporter density in rat hypothalamus under long-term clozapine and haloperidol medication. *Brain Behav.* 10: e01694.
- Jing, X., et al. 2022. Hypothalamic regulation of energy homeostasis when consuming diets of different energy concentrations: comparison between Tibetan and Small-tailed Han sheep. *Br. J. Nutr.* 127: 1132-1142.
- Guo, H., et al. 2024. Hypothalamic POMC neuron-specific knockout of MC4R affects Insulin sensitivity by regulating Kir2.1. *Mol. Med.* 30: 34.

RESEARCH USE

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

PROTOCOLS

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

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