

Product Specification Sheet

Melanocortin Receptor 2 (MC2-R/ACTH-R/α-MSH Receptor, MSH Receptor) Antibodies

Cat. # MCR21-S	Rabbit Anti-Mouse MC2-R Antiserum	SIZE: 100 ul
Cat. # MCR21-A	Rabbit Anti- Mouse MC2-R IgG# 1 (aff pure)	SIZE: 100 ug
Cat. # MCR21-P	Mouse MC2-R Control peptide	SIZE: 100 ug

Melanocortins are regulatory peptides formed by post-translational processing of pro-opiomelanocortin. Melanocortin peptides have been suggested to perform a variety of physiological roles ranging from control of behavior, memory, neurotrophic properties, antipyretic and modulation of immune system, etc. Their binding sites have been found distributed in tissues ranging from lachrymal and submandibular glands, pancreas, adipose tissue, bladder, duodenum, spleen, brain, gonadal tissues and malignant melanoma tumors. Five melanocortin receptors (MC-R) have been characterized to date. These include melanocyte-specific receptor (MSH or MC1-R), corticoadrenal-specific ACTH receptor (MC2-R), melacortin-3 (MC3-R), melanocortin-4 (MC4-R) and melanocortin-5 receptor (MC5-R). MC3-R and MC4-R are distributed in brain whereas MC5-R has a broad distribution.

Melanocyte Stimulating Hormone Receptor (MSH-R), also called Melanotropin Receptor, or Melanocortin-1 Receptor (MC1-R), is a 315 amino acid transmembrane protein belonging to the family of G-Protein coupled receptors. It is a receptor for MSH (a,b,g) and ACTH. Its activity is mediated by G-proteins, which activate adenylate cyclase. It is found in Melanocytes and corticoderrenal tissue as well as various tissues like adrenal gland, leukocytes, lung, lymph node, ovary, testis, pituitary, placenta, spleen and uterus. Melanocortin-2 receptor (MC2-R) also called Aderenocorticotrophic hormone receptor (ACTH-R) is a 297 amino acid transmembrane protein found in melanocytes and the corticoadrenal tissue. It mediates the corticotrophic effect of ACTH. Melanocortin-3 receptor (MC3-R) is expressed in brain. In humans it is a 360 AA protein whereas in mice and rats its 323 AA. MC4-R is a 332 amino acid transmembrane protein and is expressed in brain, placental and gut tissues. MC5-R is a 325 amino acid transmembrane protein expressed in the adrenals, stomach, lung and spleen and very low levels in the brain. It is also expressed in the three layers of adrenal cortex, predominantly in the aldosterone-producing zona glomerulosa cells.

Source of Antigen and Antibodies

Antigen	17aa peptide of Mouse MC2-R; (Gene Accession #Q64326) Designated (MCR21-P or control peptide). conjugated to KLH
Location	~C-terminus, Cytoplasmic
Ab Host/type	Rabbit, polyclonal; Unpurified antiserum (cat #MCR21-S) Aff pure IgG (cat #MCR21-A)
2-ab	Goat Anti-rabbit IgG-HRP cat # 20320 (AP, biotin, FITC conjugates also available)
-ve control	# 20009-1, Rabbit (non-immune) IgG, purified, suitable for ELISA, Western, IHC as -ve control

Form & Storage of Antibodies/Peptide Control

Antiserum (unpurified)

100ul solution lyophilized powder
Supplied in Buffer: 0.05% azide
Reconstitute powder in 100 ul PBS

Affinity pure IgG

100 ug/100ul solution lyophilized powder
Supplied in **Buffer: PBS+0.1% BSA**
Reconstitute powder in PBS at 1 mg/ml

Control/blocking peptide

100 ug/100 ul solution lyophilized powder
Supplied in Buffer: PBS pH 7.5,
Reconstitute powder in PBS at 1 mg/ml.

Storage

Short-term: unopened, undiluted liquid vials at -200C and powder at 4oC or -20oC..

Long-term: at -20C or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

Stability: 6-12 months at -20oC or below.

Shipping: 4oC for solutions and room temp for powder

Recommended Usage

Western Blotting (1:1K-5K for neat serum and 1-10 ug/ml for affinity pure using Chemiluminescence technique).

ELISA (1:10K-1:100K; using 50-100 ng of control peptide/well).

Histochemistry & Immunofluorescence: Not tested. We recommend the use of affinity purified antibody at 2-20 ug/ml.

Specificity & Cross-reactivity

The 17 AA mouse MCR21 immunogenic peptide shows homology of with rat 88%, human 82%, pig 76%, and bovine 70%, chicken 64% MC2-R. Antibody crossreactivity in various species is not established. Control peptide, because of its low mol. Wt (<3 kDa), is not suitable for Western. It should be used for ELISA or antibody blocking experiments (use 5-10 ug control peptide per 1 ug of aff pure IgG or 1 ul antiserum) to confirm antibody specificity (see detailed protocol at: www.4adi.com/data/abblock.html).

General References:

Kubo M et al (1995) Gene 153, 279; Mountjoy KG, et al (1992) Science 257, 1248; Clark AJ et al (1993) Lancet 341, 461; Tsigos C et al (1993) J Clin Invest. 92, 2458; Raikhistein M et al 91994) BBA 1220, 329

*This product is for *in vitro* research use only.