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# MC1R Antibody (Center)

Mouse Monoclonal Antibody (Mab)
Catalog # AM2107a

## Product Information

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| **Application** | WB, E |
| **Primary Accession** | Q01726 |
| **Other Accession** | NP_002377.4 |
| **Reactivity** | Human |
| **Predicted** | Bovine, Rabbit |
| **Host** | Mouse |
| **Clonality** | Monoclonal |
| **Isotype** | IgM |
| **Clone Names** | 578CT6.2.3 |
| **Calculated MW** | 34706 |
| **Antigen Region** | 205-232 |

## Additional Information

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| **Gene ID** | 4157 |
| **Other Names** | Melanocyte-stimulating hormone receptor, MSH-R, Melanocortin receptor 1, MC1-R, MC1R, MSHR |
| **Target/Specificity** | This MC1R antibody is generated from mice immunized with a KLH conjugated synthetic peptide between 205-232 amino acids from the Central region of human MC1R. |
| **Dilution** | WB~~1:500~1000 E~~Use at an assay dependent concentration. |
| **Format** | Purified polyclonal antibody supplied in PBS with 0.05% (V/V) Proclin 300. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS. |
| **Storage** | Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles. |
| **Precautions** | MC1R Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures. |

## Protein Information

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| **Name** | MC1R ( HGNC:6929) |
| **Synonyms** | MSHR |

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| **Function** | G protein-coupled receptor that binds melanocyte-stimulating hormones (alpha, beta, and gamma-MSH) and adrenocorticotropic hormone/ACTH, which are peptide products of the POMC precursor protein (PubMed:11442765, PubMed:11707265, PubMed:1325670, PubMed:1516719, PubMed:8463333). Upon activation, MC1R couples with the G(s) protein, stimulating adenylate cyclase and activating the cAMP-dependent signaling pathway. This activation promotes melanogenesis, resulting in the production of eumelanin (black/brown) and pheomelanin (red/yellow) in melanocytes (PubMed:11707265, PubMed:1325670, PubMed:16463023, PubMed:19737927, PubMed:31097585, PubMed:34453129). MC1R interacts with G protein-coupled receptor opsin 3/OPN3, which couples to G(i) proteins and inhibits the alpha-MSH-induced cAMP response, thereby reducing melanin synthesis (PubMed:31097585). Binding to Agouti/ASP precludes alpha-MSH-induced signaling, thereby down-regulating melanogenesis (By similarity). Additionally, interaction with MGRN1 displaces the G(s) protein, further suppressing MC1R signaling (PubMed:19737927). |
| **Cellular Location** | Cell membrane; Multi-pass membrane protein |
| **Tissue Location** | Expressed in melanocytes (PubMed:1325670, PubMed:31097585). Expressed in corticoadrenal tissue (PubMed:1325670) |

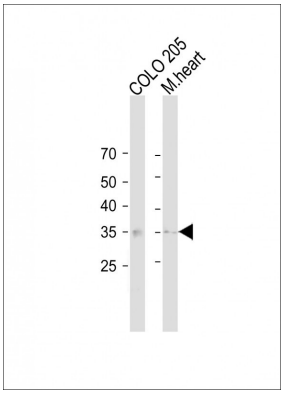
## Background

This intronless gene encodes the receptor protein for melanocyte-stimulating hormone (MSH). The encoded protein, a seven pass transmembrane G protein coupled receptor, controls melanogenesis. Two types of melanin exist: red pheomelanin and black eumelanin. Gene mutations that lead to a loss in function are associated with increased pheomelanin production, which leads to lighter skin and hair color. Eumelanin is photoprotective but pheomelanin may contribute to UV-induced skin damage by generating free radicals upon UV radiation. Binding of MSH to its receptor activates the receptor and stimulates eumelanin synthesis. This receptor is a major determining factor in sun sensitivity and is a genetic risk factor for melanoma and non-melanoma skin cancer. Over 30 variant alleles have been identified which correlate with skin and hair color, providing evidence that this gene is an important component in determining normal human pigment variation. [provided by RefSeq].

## References


Demenais, F., et al. J. Natl. Cancer Inst. 102(20):1568-1583(2010)
Strange, R.C., et al. Mult. Scler. 16(9):1109-1116(2010)
Ibarrola-Villava, M., et al. Exp. Dermatol. 19(9):836-844(2010)
Smith, G., et al. Pharmacogenet. Genomics (2010) In press :
Kricker, A., et al. Cancer Causes Control (2010) In press :


## Images




All lanes: Anti-MC1R Antibody (Center) at 1:250 dilution Lane 1: COLO 205 whole cell lysate Lane 2: Mouse heart lysate Lysates/proteins at 20 µg per lane. Secondary: Goat Anti-Mouse IgM, (H+L), Peroxidase conjugated (ASP1613) at 1/8000 dilution. Observed band size: 35 KDa Blocking/Dilution buffer: 5% NFDM/TBST.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.