

CMC1 (A-3): sc-398483

BACKGROUND

CMC1 (COX assembly mitochondrial protein 1 homolog) is a 106 amino acid protein that localizes to the mitochondrion with MT-CO1. CMC1 is required for mitochondrial cytochrome c oxidase (COX) assembly and respiration. CMC1 is known to bind copper and may be involved in the trafficking of copper to COX and SOD1. The CMC1 gene is conserved in chimpanzee, canine, bovine, mouse, chicken, zebrafish, fruit fly and mosquito, and maps to human chromosome 3p24.1. Chromosome 3 is made up of about 214 million bases encoding over 1,100 genes. Notably, there is a chemokine receptor gene cluster and a variety of human cancer related loci on chromosome 3. Key tumor suppressing genes on chromosome 3 encode apoptosis mediator RASSF1, cell migration regulator HYAL1 and angiogenesis suppressor SEMA3B. Marfan syndrome, porphyria, von Hippel-Lindau syndrome, osteogenesis imperfecta and Charcot-Marie-tooth disease are a few of the numerous genetic diseases associated with chromosome 3.

REFERENCES

1. Yue, Y., et al. 2005. Genomic structure and paralogous regions of the inversion breakpoint occurring between human chromosome 3p12.3 and orangutan chromosome 2. *Cytogenet. Genome Res.* 108: 98-105.
2. Yue, Y., et al. 2005. Comparative cytogenetics of human chromosome 3q21.3 reveals a hot spot for ectopic recombination in hominoid evolution. *Genomics* 85: 36-47.
3. Darai, E., et al. 2005. Evolutionarily plastic regions at human 3p21.3 coincide with tumor breakpoints identified by the "elimination test". *Genomics* 86: 1-12.

CHROMOSOMAL LOCATION

Genetic locus: CMC1 (human) mapping to 3p24.1; Cmc1 (mouse) mapping to 9 F3.

SOURCE

CMC1 (A-3) is a mouse monoclonal antibody raised against amino acids 1-106 representing full length CMC1 of human origin.

PRODUCT

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

CMC1 (A-3) is available conjugated to agarose (sc-398483 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-398483 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398483 PE), fluorescein (sc-398483 FITC), Alexa Fluor® 488 (sc-398483 AF488), Alexa Fluor® 546 (sc-398483 AF546), Alexa Fluor® 594 (sc-398483 AF594) or Alexa Fluor® 647 (sc-398483 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-398483 AF680) or Alexa Fluor® 790 (sc-398483 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

RESEARCH USE

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

APPLICATIONS

CMC1 (A-3) is recommended for detection of CMC1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

Suitable for use as control antibody for CMC1 siRNA (h): sc-78442, CMC1 siRNA (m): sc-142411, CMC1 shRNA Plasmid (h): sc-78442-SH, CMC1 shRNA Plasmid (m): sc-142411-SH, CMC1 shRNA (h) Lentiviral Particles: sc-78442-V and CMC1 shRNA (m) Lentiviral Particles: sc-142411-V.

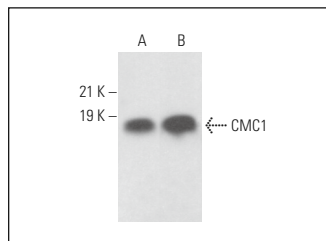
Molecular Weight of CMC1: 13 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, THP-1 cell lysate: sc-2238 or RT-4 whole cell lysate: sc-364257.

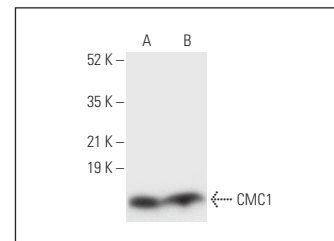
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BPHRP: sc-516102 or m-IgGκ BPHRP (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-IgGκ BP-FITC: sc-516140 or m-IgGκ 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



CMC1 (A-3): sc-398483. Western blot analysis of CMC1 expression in Hep G2 (A) and THP-1 (B) whole cell lysates.



CMC1 (A-3): sc-398483. Western blot analysis of CMC1 expression in Hep G2 (A) and RT-4 (B) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Yu, D., et al. 2023. Single-cell RNA sequencing reveals enhanced antitumor immunity after combined application of PD-1 inhibitor and Shenmai injection in non-small cell lung cancer. *Cell Commun. Signal.* 21: 169.

STORAGE

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