

MAST205 (A-7): sc-377198

BACKGROUND

Syntrophin is an adapter protein that functions to bind certain signaling molecules to the dystrophin-associated protein complex. This complex connects the extracellular matrix to the intracellular cytoskeleton for construction and maintenance of the postsynaptic structures in the neuromuscular junction and the central nervous system. Microtubule-associated serine/threonine-protein kinase 2 (MAST205) is a testis-specific, cytoplasmic protein that functions in a multi-protein complex in the maturation of spermatids. MAST205 is involved in linking the dystrophin/utrophin network with microtubule filaments via Syntrophin. By forming a complex with TRAF6, MAST205 regulates lipopolysaccharide-induced IL-12 synthesis in macrophages. This leads to the inhibition of TRAF6 NF κ B activation. Two isoforms exist for MAST205 due to alternative splicing. Isoform 1 represents the full length protein, while isoform 2 lacks the residues 327-396 and 1091-1113. The N-terminus of MAST205 must be phosphorylated in order for ubiquitination to occur at the same site. This ubiquitination leads to the degradation of MAST205 via proteasome-mediated proteolysis.

REFERENCES

- Walden, P.D., et al. 1993. A novel 205-kilodalton testis-specific serine/threonine protein kinase associated with microtubules of the spermatid manchette. *Mol. Cell. Biol.* 13: 7625-7635.
- Walden, P.D., et al. 1996. Increased activity associated with the MAST205 protein kinase complex during mammalian spermiogenesis. *Biol. Reprod.* 55: 1039-1044.
- Lumeng, C., et al. 1999. Interactions between β 2-syntrophin and a family of microtubule-associated serine/threonine kinases. *Nat. Neurosci.* 2: 611-617.
- Xiong, H., et al. 2004. Interaction of TRAF6 with MAST205 regulates NF κ B activation and MAST205 stability. *J. Biol. Chem.* 279: 43675-43683.

CHROMOSOMAL LOCATION

Genetic locus: Mast2 (mouse) mapping to 4 D1.

SOURCE

MAST205 (A-7) is a mouse monoclonal antibody raised against amino acids 1435-1734 mapping at the C-terminus of MAST205 of mouse 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.

MAST205 (A-7) is available conjugated to agarose (sc-377198 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-377198 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-377198 PE), fluorescein (sc-377198 FITC), Alexa Fluor[®] 488 (sc-377198 AF488), Alexa Fluor[®] 546 (sc-377198 AF546), Alexa Fluor[®] 594 (sc-377198 AF594) or Alexa Fluor[®] 647 (sc-377198 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-377198 AF680) or Alexa Fluor[®] 790 (sc-377198 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

MAST205 (A-7) is recommended for detection of MAST205 of mouse and rat 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 MAST205 siRNA (m): sc-62603, MAST205 shRNA Plasmid (m): sc-62603-SH and MAST205 shRNA (m) Lentiviral Particles: sc-62603-V.

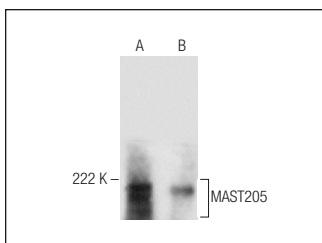
Molecular Weight of MAST205: 205 kDa.

Positive Controls: mouse testis extract: sc-2405, F9 cell lysate: sc-2245 or rat heart extract: sc-2393.

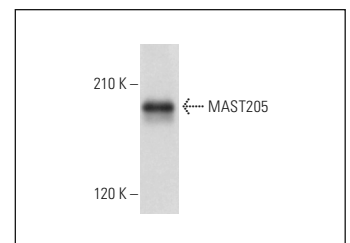
RECOMMENDED SUPPORT REAGENTS

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



MAST205 (A-7): sc-377198. Western blot analysis of MAST205 expression in mouse testis (A) and rat heart (B) tissue extracts.



MAST205 (A-7): sc-377198. Western blot analysis of MAST205 expression in F9 whole cell lysate.

SELECT PRODUCT CITATIONS

- Tripathy, R., et al. 2018. Mutations in MAST1 cause mega-corpora-callosum syndrome with cerebellar hypoplasia and cortical malformations. *Neuron* 100: 1354-1368.e5.

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.