SANTA CRUZ BIOTECHNOLOGY, INC.

Enigma (H-12): sc-398100

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Enigma, also known as PDLIM7 (PDZ and LIM domain 7) or LMP1 (LIM mineralization protein), is a 457 amino acid protein that localizes to both the cytoplasm and the cytoskeleton. Expressed ubiquitously with highest expression in skeletal muscle, spleen, lung and fetal liver, Enigma is thought to function as a scaffold on which protein assembly can occur. Enigma contains three LIM zinc-binding domains and one PDZ domain through which it may also act as an adaptor, linking various proteins to Actin filaments found in skeletal muscle and non-muscle tissues. Additionally, Enigma is directly involved in the two mechanisms of bone formation, namely direct bone formation (embryonic flat bones mandible and cranium) and endochondral bone formation (embryonic long bone development), and may play a role in bone fracture repair. Six isoforms of Enigma exist due to alternative splicing events.

REFERENCES

1. Wu, R.Y. and Gill, G.N. 1994. LIM domain recognition of a tyrosine-containing tight turn. J. Biol. Chem. 269: 25085-25090.
2. Durick, K., et al. 1998. Shc and Enigma are both required for mitogenic signaling by Ret/ptc2. Mol. Cell. Biol. 18: 2298-2308.
3. Guy, P.M., et al. 1999. The PDZ domain of the LIM protein Enigma binds to β-tropomyosin. Mol. Biol. Cell 10: 1973-1984.
4. Bach, I. 2000. The LIM domain: regulation by association. Mech. Dev. 91: 5-17.
5. Borrello, M.G., et al. 2002. Differential interaction of Enigma protein with the two RET isoforms. Biochem. Biophys. Res. Commun. 296: 515-522.
6. Liu, Y., et al. 2002. Overexpressed LIM mineralization proteins do not require LIM domains to induce bone. J. Bone Miner. Res. 17: 406-414.

CHROMOSOMAL LOCATION

Genetic locus: PDLIM7 (human) mapping to 5q35.3; Pdlim7 (mouse) mapping to 13 B1.

SOURCE

Enigma (H-12) is a mouse monoclonal antibody raised against amino acids 184-293 mapping within an internal region of Enigma of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Enigma (H-12) is available conjugated to agarose (sc-398100 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-398100 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398100 PE), fluorescein (sc-398100 FITC), Alexa Fluor® 488 (sc-398100 AF488), Alexa Fluor® 546 (sc-398100 AF546), Alexa Fluor® 594 (sc-398100 AF594) or Alexa Fluor® 647 (sc-398100 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-398100 AF680) or Alexa Fluor® 790 (sc-398100 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

Enigma (H-12) is recommended for detection of Enigma 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 Enigma siRNA (h): sc-77273, Enigma siRNA (m): sc-77274, Enigma shRNA Plasmid (h): sc-77273-SH, Enigma shRNA Plasmid (m): sc-77274-SH, Enigma shRNA (h) Lentiviral Particles: sc-77273-V and Enigma shRNA (m) Lentiviral Particles: sc-77274-V.

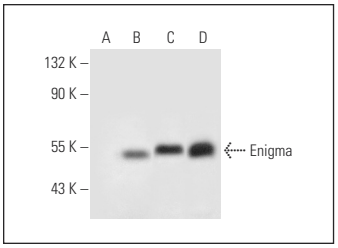
Molecular Weight of Enigma: 55 kDa.

Positive Controls: Enigma (h): 293T Lysate: sc-170164, HeLa nuclear extract: sc-2120 or Hep G2 cell lysate: sc-2227.

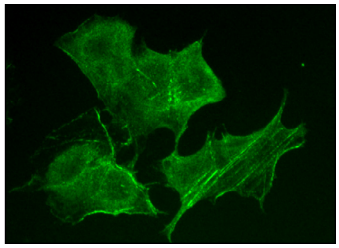
RECOMMENDED SUPPORT REAGENTS

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



Enigma (H-12): sc-398100. Western blot analysis of Enigma expression in non-transfected 293T: sc-117752 (**A**), human Enigma transfected 293T: sc-170164 (**B**) and Hep G2 (**C**) whole cell lysates and HeLa nuclear extract (**D**).



Enigma (H-12): sc-398100. Immunofluorescence staining of formalin-fixed Hep G2 cells showing cytoskeletal, membrane and cytoplasmic localization.

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.

PROTOCOLS

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