

Enigma (H-110): sc-98370

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

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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.
7. Barrès, R., et al. 2006. Enigma interacts with adaptor protein with PH and SH2 domains to control Insulin-induced Actin cytoskeleton remodeling and glucose transporter 4 translocation. *Mol. Endocrinol.* 20: 2864-2875.
8. Fei, Q., et al. 2007. Truncated human LMP-1 triggers differentiation of C2C12 cells to an osteoblastic phenotype *in vitro*. *Acta Biochim. Biophys. Sin.* 39: 693-700.
9. Wang, X., et al. 2008. Immunohistochemical localization of LIM mineralization protein 1 in pulp-dentin complex of human teeth with normal and pathologic conditions. *J. Endod.* 34: 143-147.

CHROMOSOMAL LOCATION

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

SOURCE

Enigma (H-110) is a rabbit polyclonal antibody raised against amino acids 184-293 mapping within an internal region of Enigma of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Enigma (H-110) is recommended for detection of Enigma of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

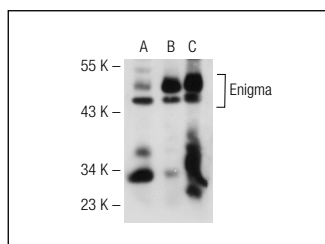
Enigma (H-110) is also recommended for detection of Enigma in additional species, including bovine, canine and equine.

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.

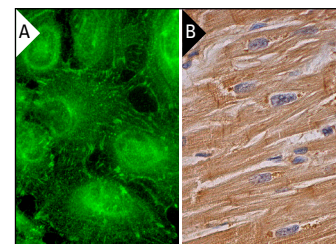
Molecular Weight of Enigma: 55 kDa.

Positive Controls: HeLa nuclear extract: sc-2120 or Enigma (h2): 293T Lysate: sc-170897.

DATA



Enigma (H-110): sc-98370. Western blot analysis of Enigma expression in non-transfected: sc-117752 (A) and human Enigma transfected: sc-170897 (B) 293T whole cell lysates and HeLa nuclear extract (C).



Enigma (H-110): sc-98370. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoskeletal, nuclear and focal adhesions localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human heart muscle tissue showing cytoplasmic and membrane staining of myocytes (B).

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 or our catalog for detailed protocols and support products.

MONOS
Satisfaction
Guaranteed

Try **Enigma (H-12): sc-398100** or **Enigma (D-10): sc-376359**, our highly recommended monoclonal alternatives to Enigma (H-110).