

FACE-1 (H-170): sc-66886

BACKGROUND

FACE-1, or zinc metalloproteinase Ste24 homolog (Zmpste24), is a metalloproteinase responsible for cleaving prelamin A to lamin A, a component of the nuclear envelope. An integral membrane protein, FACE-1 is widely expressed in tissues throughout the human body and uses zinc as a cofactor, with one zinc ion per subunit. Mutations in the FACE-1 gene are linked to laminopathies in humans, including restrictive dermopathy (RD) and mandibuloacral dysplasia (MAD), both characterized by severe developmental abnormalities and in the case of RD, early neonatal death. Accumulation of unprocessed prelamin A may be responsible for deficits associated with these genetic disorders.

REFERENCES

- Freije, J.M., et al. 1999. Identification and chromosomal location of two human genes encoding enzymes potentially involved in proteolytic maturation of farnesylated proteins. *Genomics* 58: 270-280.
- Pendas, A.M., et al. 2002. Defective prelamin A processing and muscular and adipocyte alterations in Zmpste24 metalloproteinase-deficient mice. *Nat. Genet.* 31: 94-99.
- Agarwal, A.K., et al. 2003. Zinc metalloproteinase, Zmpste24, is mutated in mandibuloacral dysplasia. *Hum. Mol. Genet.* 12: 1995-2001.
- Navarro, C.L., et al. 2004. Lamin A and Zmpste24 (FACE-1) defects cause nuclear disorganization and identify restrictive dermopathy as a lethal neonatal laminopathy. *Hum. Mol. Genet.* 13: 2493-2503.
- Varela, I., et al. 2005. Accelerated ageing in mice deficient in Zmpste24 protease is linked to p53 signalling activation. *Nature* 437: 564-568.
- Navarro, C.L., et al. 2005. Loss of Zmpste24 (FACE-1) causes autosomal recessive restrictive dermopathy and accumulation of lamin A precursors. *Hum. Mol. Genet.* 14: 1503-1513.
- Gruber, J., et al. 2005. RNAi of FACE-1 protease results in growth inhibition of human cells expressing lamin A: implications for Hutchinson-Gilford progeria syndrome. *J. Cell Sci.* 118: 689-696.
- Corrigan, D.P., et al. 2005. Prelamin A endoproteolytic processing *in vitro* by recombinant Zmpste24. *Biochem. J.* 387: 129-138.
- SWISS-PROT/TrEMBL (O75844). World Wide Web URL: <http://www.expasy.ch/sprot/sprot-top.html>

CHROMOSOMAL LOCATION

Genetic locus: ZMPSTE24 (human) mapping to 1p34.2; Zmpste24 (mouse) mapping to 4 D2.2.

SOURCE

FACE-1 (H-170) is a rabbit polyclonal antibody raised against amino acids 1-170 mapping at the N-terminus of FACE-1 of human origin.

PRODUCT

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

APPLICATIONS

FACE-1 (H-170) is recommended for detection of FACE-1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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).

FACE-1 (H-170) is also recommended for detection of FACE-1 in additional species, including equine and bovine.

Suitable for use as control antibody for FACE-1 siRNA (h): sc-45524, FACE-1 siRNA (m): sc-45525, FACE-1 shRNA Plasmid (h): sc-45524-SH, FACE-1 shRNA Plasmid (m): sc-45525-SH, FACE-1 shRNA (h) Lentiviral Particles: sc-45524-V and FACE-1 shRNA (m) Lentiviral Particles: sc-45525-V.

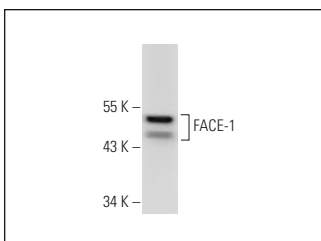
Molecular Weight of FACE-1: 55 kDa.

Positive Controls: mouse cerebellum extract: sc-2403.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



FACE-1 (H-170): sc-66886. Western blot analysis of FACE-1 expression in mouse cerebellum tissue extract.

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.