SANTA CRUZ BIOTECHNOLOGY, INC.

FACE-1 (U-24): sc-130755

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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

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3. Agarwal, A.K., et al. 2003. Zinc metalloproteinase, Zmpste24, is mutated in mandibuloacral dysplasia. Hum. Mol. Genet. 12: 1995-2001.
4. 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.
5. Varela, I., et al. 2005. Accelerated ageing in mice deficient in Zmpste24 protease is linked to p53 signalling activation. Nature 437: 564-568.
6. 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.
7. 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.
8. Corrigan, D.P., et al. 2005. Prelamin A endoproteolytic processing *in vitro* by recombinant Zmpste24. Biochem. J. 387: 129-38.
9. 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 (U-24) is a purified rabbit polyclonal antibody raised against a peptide mapping within an internal region of FACE-1 of human origin.

STORAGE

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

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

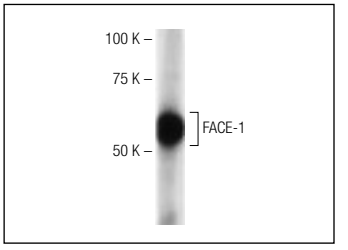
FACE-1 (U-24) is recommended for detection of FACE-1 of mouse and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), 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).

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.

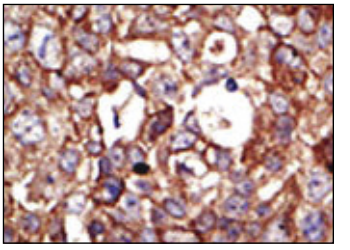
Molecular Weight of FACE-1: 55 kDa.

Positive Controls: mouse cerebellum extract: sc-2403.

DATA



FACE-1 (U-24): sc-130755. Western blot analysis of FACE-1 expression in mouse cerebellum tissue extract.



FACE-1 (U-24): sc-130755. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human breast carcinoma tissue showing membrane localization.

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.