

Id4 (L-20): sc-491

BACKGROUND

Members of the Id family of basic helix-loop-helix (bHLH) proteins include Id1, Id2, Id3 and Id4. They are ubiquitously expressed and dimerize with members of the class A and B HLH proteins. Due to the absence of the basic region, the resulting heterodimers cannot bind DNA. The Id-type proteins thus appear to negatively regulate DNA binding of bHLH proteins. Since Id1 inhibits DNA binding of E12 and Myo D, it apparently functions to inhibit muscle-specific gene expression. Under conditions that facilitate muscle cell differentiation, the Id protein levels fall, allowing E12 and/or E47 to form heterodimers with Myo D and myogenin, which in turn activate myogenic differentiation. It has been shown that expression of each of the Id proteins is strongly dependent on growth factor activation and that reduction of Id mRNA levels by antisense oligonucleotides leads to a delayed reentry of arrested cells into the cell cycle following growth factor stimulation.

CHROMOSOMAL LOCATION

Genetic locus: ID4 (human) mapping to 6p22.3; Id4 (mouse) mapping to 13 A5.

SOURCE

Id4 (L-20) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the C-terminus of Id4 of mouse origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-491 X, 100 µg/0.1 ml.

Blocking peptide available for competition studies, sc-491 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

Id4 (L-20) is recommended for detection of Id4 of mouse, rat and, to a lesser extent, 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 Id4 siRNA (h): sc-38004, Id4 siRNA (m): sc-38005, Id4 shRNA Plasmid (h): sc-38004-SH, Id4 shRNA Plasmid (m): sc-38005-SH, Id4 shRNA (h) Lentiviral Particles: sc-38004-V and Id4 shRNA (m) Lentiviral Particles: sc-38005-V.

Id4 (L-20) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of Id4: 18 kDa.

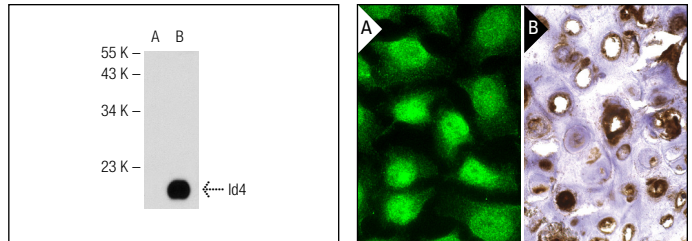
STORAGE

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.

DATA



Id4 (L-20): sc-491. Western blot analysis of Id4 expression in non-transfected: sc-117752 (A) and human Id4 transfected: sc-110122 (B) 293T whole cell lysates.

Id4 (L-20): sc-491. Immunofluorescence staining of methanol-fixed HeLa showing nuclear and cytoplasmic localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human bronchus tissue showing nuclear and cytoplasmic staining of cartilage cells (B).

SELECT PRODUCT CITATIONS

- Kondo, T., et al. 2000. The Id4 HLH protein and the timing of oligodendrocyte differentiation. *EMBO J.* 19: 1998-2007.
- Fernandez-Valdivia, R., et al. 2008. Transcriptional response of the murine mammary gland to acute progesterone exposure. *Endocrinology* 149: 6236-6250.
- Darnel, A.D., et al. 2009. Correlation between the presence of high-risk human papillomaviruses and Id gene expression in Syrian women with cervical cancer. *Clin. Microbiol. Infect.* 16: 262-266.
- Mukhopadhyay, P., et al. 2009. Suppression of chondrogenesis by Id helix-loop-helix proteins in murine embryonic orofacial tissue. *Differentiation* 77: 462-472.
- Lowery, J.W., et al. 2010. ID family protein expression and regulation in hypoxic pulmonary hypertension. *Am. J. Physiol., Regul. Integr. Comp. Physiol.* 299: R1463-R1477.
- Lee, Y.S., et al. 2011. ID4 mediates proliferation of astrocytes after excitotoxic damage in the mouse hippocampus. *Anat. Cell Biol.* 44: 128-134.
- Fini, M.A., et al. 2011. Contribution of xanthine oxidoreductase to mammary epithelial and breast cancer cell differentiation in part modulates inhibitor of differentiation-1. *Mol. Cancer Res.* 9: 1242-1254.
- Dong, J., et al. 2011. ID4 regulates mammary gland development by suppressing p38MAPK activity. *Development* 138: 5247-5256.

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