

Id1 (C-20): sc-488

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: ID1 (human) mapping to 20q11.21; Id1 (mouse) mapping to 2 H1.

SOURCE

Id1 (C-20) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the C-terminus of Id1 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.

Blocking peptide available for competition studies, sc-488 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-488 X, 200 µg/0.1 ml.

APPLICATIONS

Id1 (C-20) is recommended for detection of Id1 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), 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).

Id1 (C-20) is also recommended for detection of Id1 in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for Id1 siRNA (h): sc-29356, Id1 siRNA (m): sc-35632, Id1 shRNA Plasmid (h): sc-29356-SH, Id1 shRNA Plasmid (m): sc-35632-SH, Id1 shRNA (h) Lentiviral Particles: sc-29356-V and Id1 shRNA (m) Lentiviral Particles: sc-35632-V.

Id1 (C-20) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

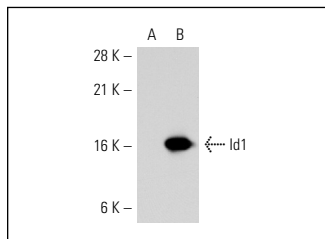
Molecular Weight of Id1: 15 kDa.

Positive Controls: Id1 (h): 293 Lysate: sc-113028, Ramos cell lysate: sc-2216 or PC-12 + NGF cell lysate: sc-3808.

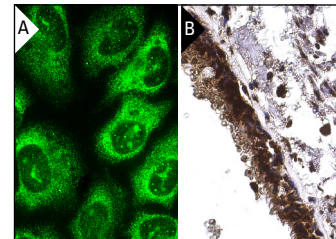
STORAGE

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

DATA



Id1 (C-20): sc-488. Western blot analysis of Id1 expression in non-transfected: sc-110760 (A) and human Id1 transfected: sc-113028 (B) 293 whole cell lysates.



Id1 (C-20): sc-488. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human bronchus tissue showing nuclear and cytoplasmic staining of respiratory epithelial cells (B).

SELECT PRODUCT CITATIONS

- Deed, R.W., et al. 1998. Lymphoid-specific expression of the Id3 gene in hematopoietic cells. Selective antagonism of E2A basic helix-loop-helix protein associated with Id3-induced differentiation of erythroleukemia cells. *J. Biol. Chem.* 273: 8278-8286.
- Konishi, H., et al. 2010. Id1, Id2 and Id3 are induced in rat melanotrophs of the pituitary gland by dopamine suppression under continuous stress. *Neuroscience* 169: 1527-1534.
- Cheung, P.Y., et al. 2011. Id-1 induces cell invasiveness in immortalized epithelial cells by regulating cadherin switching and Rho GTPases. *J. Cell. Biochem.* 112: 157-168.
- Hao, F., et al. 2011. Protein kinase C α signaling regulates inhibitor of DNA binding 1 in the intestinal epithelium. *J. Biol. Chem.* 286: 18104-18117.
- 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.
- Rodríguez-Carballo, E., et al. 2011. Conserved regulatory motifs in osteogenic gene promoters integrate cooperative effects of canonical Wnt and BMP pathways. *J. Bone Miner. Res.* 6: 718-729.

RESEARCH USE

For research use only, not for use in diagnostic procedures.


 MONOS
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Try **Id1 (B-8): sc-133104** or **Id1 (B-1): sc-133103**, our highly recommended monoclonal alternatives to Id1 (C-20). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **Id1 (B-8): sc-133104**.