

Id1 (Z-8): sc-427

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.

REFERENCES

1. Benezra, R., et al. 1990. The protein Id: a negative regulator of helix-loop-helix DNA binding proteins. *Cell* 61: 49-59.
2. Christy, B.A., et al. 1991. An Id-related helix-loop-helix protein encoded by a growth factor-inducible gene. *Proc. Natl. Acad. Sci. USA* 88: 1815-1819.
3. Sun, X., et al. 1991. Id proteins Id1 and Id2 selectively inhibit DNA binding by one class of helix-loop-helix proteins. *Mol. Cell. Biol.* 11: 5603-5611.
4. Neuhold, L.A. and Wold, B. 1993. HLH forced dimers: tethering MyoD to E47 generates a dominant positive myogenic factor insulated from negative regulation by Id. *Cell* 74: 1033-1042.

SOURCE

Id1 (Z-8) is a rabbit polyclonal antibody raised against amino acids 1-148 representing full length Id1 of mouse origin.

PRODUCT

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

APPLICATIONS

Id1 (Z-8) is recommended for detection of Id1, Id2, Id3 and Id4 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).

Molecular Weight of Id1: 15 kDa.

Positive Controls: Id1 (h2): 293T Lysate: sc-171632, HeLa whole cell lysate: sc-2200 or Ramos cell lysate: sc-2216.

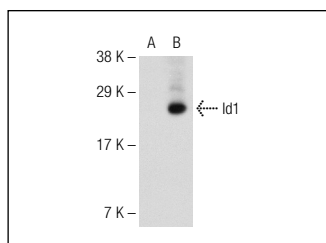
STORAGE

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

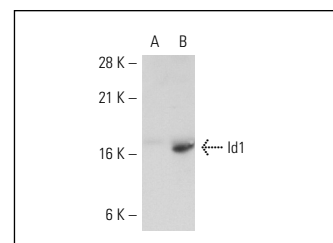
RESEARCH USE

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

DATA



Id1 (Z-8): sc-427. Western blot analysis of Id1 expression in non-transfected: sc-117752 (A) and human Id1 transfected: sc-171632 (B) 293T whole cell lysates.



Id1 (Z-8): sc-427. Western blot analysis of Id1 expression in non-transfected: sc-110760 (A) and human Id1 transfected: sc-113028 (B) 293 whole cell lysates.

SELECT PRODUCT CITATIONS

1. Gupta, A.K., et al. 2002. USF-1 and USF-2 *trans*-repress IL-1β-induced iNOS transcription in mesangial cells. *Am. J. Physiol., Cell Physiol.* 283: C1065-C1072.
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3. Pache, G., et al. 2006. Upregulation of Id-1 via BMP-2 receptors induces reactive oxygen species in podocytes. *Am. J. Physiol. Renal Physiol.* 291: F654-F662.
4. Yoshimura, T., et al. 2007. Growth inhibition of human salivary gland tumor cells by introduction of progesterone (Pg) receptor and Pg treatment. *Endocr. Relat. Cancer* 14: 1107-1116.
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7. Weigent, D.A. 2009. Regulation of Id2 expression in EL4 T lymphoma cells overexpressing growth hormone. *Cell. Immunol.* 255: 46-54.
8. Hauser, J., et al. 2010. Calmodulin inhibition of E2A stops expression of surrogate light chains of the pre-B-cell receptor and CD19. *Mol. Immunol.* 47: 1031-1038.
9. Moya, I.M., et al. 2012. Stalk cell phenotype depends on integration of Notch and Smad1/5 signaling cascades. *Dev. Cell* 22: 501-514.



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