

Id1 (h): 293 Lysate: sc-113028

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 MyoD, 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 MyoD 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., Davis, R.L., Lockshon, D., Turner, D.L. and Weintraub, H. 1990. The protein Id: a negative regulator of helix-loop-helix DNA binding proteins. *Cell* 61: 49-59.
2. Christy, B.A., Sanders, L.K., Lau, L.F., Copeland, N.G., Jenkins, N.A. and Nathans, D. 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., Copeland, N.G., Jenkins, N.A. and Baltimore, D. 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.
5. Riechmann, V., van Cruchten, I. and Sablitzky, F. 1994. The expression pattern of Id4, a novel dominant negative helix-loop-helix protein, is distinct from Id1, Id2 and Id3. *Nucleic Acids Res.* 22: 749-755.
6. Barone, M.V., Pepperkok, R., Peverali, F.A. and Philipson, L. 1994. Id proteins control growth induction in mammalian cells. *Proc. Natl. Acad. Sci. USA* 91: 4985-4988.
7. Hara, E., Yamaguchi, T., Nojima, H., Ide, T., Campisi, J., Okayama, H. and Oda, K. 1994. Id-related genes encoding helix-loop-helix proteins are required for G₁ progression and are repressed in senescent human fibroblasts. *J. Biol. Chem.* 269: 2139-2145.

CHROMOSOMAL LOCATION

Genetic locus: ID1 (human) mapping to 20q11.21.

PRODUCT

Id1 (h): 293 Lysate represents a lysate of human Id1 transfected 293 cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

APPLICATIONS

Id1 (h): 293 Lysate is suitable as a Western Blotting positive control for human reactive Id1 antibodies. Recommended use: 10-20 µl per lane.

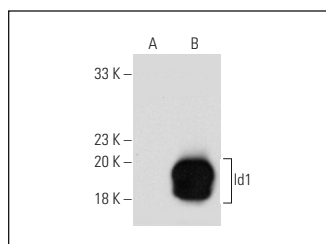
Control 293 Lysate: sc-110760 is available as a Western Blotting negative control lysate derived from non-transfected 293 cells.

Id1 (B-1): sc-133103 is recommended as a positive control antibody for Western Blot analysis of enhanced human Id1 expression in Id1 transfected 293 cells (starting dilution 1:100, dilution range 1:100-1:1,000).

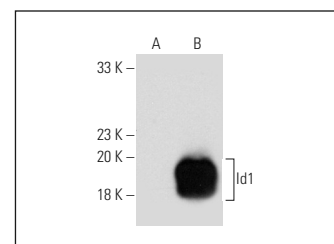
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

DATA



Id1 (B-1): sc-133103. Western blot analysis of Id1 expression in non-transfected: sc-110760 (A) and human Id1 transfected: sc-113028 (B) 293 whole cell lysates.



Id1 (B-8): sc-133104. Western blot analysis of Id1 expression in non-transfected: sc-110760 (A) and human Id1 transfected: sc-113028 (B) 293 whole cell lysates.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.