

# Id1 (2456C1a): sc-130018

## 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

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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.
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## CHROMOSOMAL LOCATION

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

## SOURCE

Id1 (2456C1a) is a mouse monoclonal antibody raised against a recombinant protein corresponding to an internal region of Id1 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<sub>1</sub> in 1.0 ml PBS with < 0.1% sodium azide and 0.1% BSA.

## APPLICATIONS

d1 (2456C1a) is recommended for detection of Id1 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

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

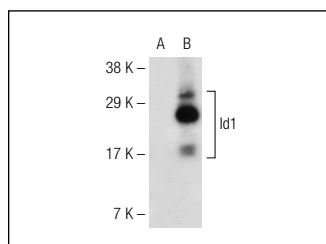
Molecular Weight of Id1: 15 kDa.

Positive Controls: Id1 (h2): 293T Lysate: sc-171632, Id1 (h3): 293T Lysate: sc-171709 or HeLa nuclear extract: sc-2120.

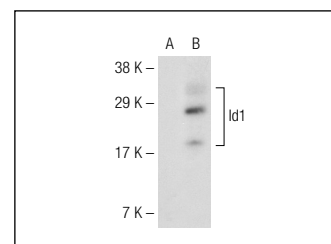
## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

## DATA



Id1 (2456C1a): sc-130018. Western blot analysis of Id1 expression in non-transfected: sc-117752 (A) and human Id1 transfected: sc-171632 (B) 293T whole cell lysates.



Id1 (2456C1a): sc-130018. Western blot analysis of Id1 expression in non-transfected: sc-117752 (A) and human Id1 transfected: sc-171709 (B) 293T whole cell lysates.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.