

## Id1 (A-20): sc-27187

### 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., et al. 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., et al. 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., et al. 1994. Id proteins control growth induction in mammalian cells. *Proc. Natl. Acad. Sci. USA* 91: 4985-4988.
7. Hara, E., et al. 1994. Id-related genes encoding helix-loop-helix proteins are required for G<sub>1</sub> progression and are repressed in senescent human fibroblasts. *J. Biol. Chem.* 269: 2139-2145.

### CHROMOSOMAL LOCATION

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

### SOURCE

Id1 (A-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Id1 of human origin.

### PRODUCT

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

Blocking peptide available for competition studies, sc-27187 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

### RESEARCH USE

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

### APPLICATIONS

Id1 (A-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), 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).

Id1 (A-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 siRNA (h2): sc-44267, Id1 shRNA Plasmid (h): sc-29356-SH, Id1 shRNA Plasmid (m): sc-35632-SH, Id1 shRNA Plasmid (h2): sc-44267-SH, Id1 shRNA (h) Lentiviral Particles: sc-29356-V, Id1 shRNA (m) Lentiviral Particles: sc-35632-V and Id1 shRNA (h2) Lentiviral Particles: sc-44267-V.

Molecular Weight of Id1: 15 kDa.

Positive Controls: HeLa nuclear extract: sc-2120, HeLa whole cell lysate: sc-2200 or Ramos cell lysate: sc-2216.

### RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

### SELECT PRODUCT CITATIONS

1. Zhang, M., et al. A role for c-Abl in cell senescence and spontaneous immortalization. *Age*. E-published.

### STORAGE

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

### PROTOCOLS

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



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