

## Id3 (C-20): sc-490

### 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: ID3 (human) mapping to 1p36.12; Id3 (mouse) mapping to 4 D3.

### SOURCE

Id3 (C-20) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the C-terminus of Id3 of human origin.

### PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-490 X, 200 µg/0.1 ml.

Blocking peptide available for competition studies, sc-490 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

### APPLICATIONS

Id3 (C-20) is recommended for detection of Id3 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), 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).

Suitable for use as control antibody for Id3 siRNA (h): sc-38002, Id3 siRNA (m): sc-38003, Id3 shRNA Plasmid (h): sc-38002-SH, Id3 shRNA Plasmid (m): sc-38003-SH, Id3 shRNA (h) Lentiviral Particles: sc-38002-V and Id3 shRNA (m) Lentiviral Particles: sc-38003-V.

Id3 (C-20) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of Id3: 20 kDa.

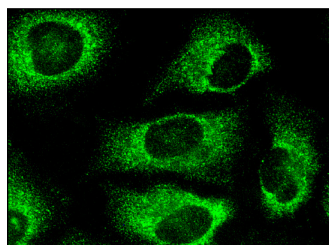
### STORAGE

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

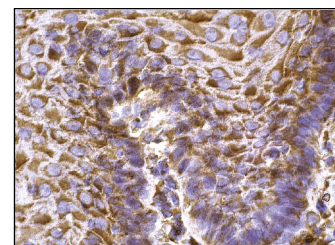
### RESEARCH USE

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

### DATA



Id3 (C-20): sc-490. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.



Id3 (C-20): sc-490. Immunoperoxidase staining of formalin fixed, paraffin-embedded human esophagus tissue showing cytoplasmic staining of squamous epithelial cells.

### SELECT PRODUCT CITATIONS

1. Deed, R.W., et al. 1996. Nuclear localization and regulation of Id protein through an E protein-mediated chaperone mechanism. *J. Biol. Chem.* 271: 23603-23606.
2. Lasorella, A., et al. 1996. Id2 specifically alters regulation of the cell cycle by tumor suppressor proteins. *Mol. Cell. Biol.* 16: 2570-2578.
3. Hammond, N.L., et al. 2008. Id2, Id3, and Id4 proteins show dynamic changes in expression during vibrissae follicle development. *Dev. Dyn.* 237: 1653-1661.
4. Ciarapica, R., et al. 2009. Targeting Id protein interactions by an engineered HLH domain induces human neuroblastoma cell differentiation. *Oncogene* 28: 1881-1891.
5. 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.
6. Qian, T., et al. 2010. Id1 enhances RING1b E3 ubiquitin ligase activity through the Mel-18/Bmi-1 polycomb group complex. *Oncogene* 29: 5818-5827.
7. Dufresne, M., et al. 2011. Id3 modulates cellular localization of bHLH Ptf1-p48 protein. *Int. J. Cancer* 129: 295-306.
8. 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.

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Try **Id3 (2B11): sc-56712** or **Id3 (4i234): sc-71311**, our highly recommended monoclonal alternatives to Id3 (C-20). Also, for AC, HRP, FITC, PE, Alexa Fluor<sup>®</sup> 488 and Alexa Fluor<sup>®</sup> 647 conjugates, see **Id3 (2B11): sc-56712**.