

# Dio-1 (I-15): sc-5893

## BACKGROUND

Dio-1 (death inducer-oblierator-1) is a putative transcription factor that contains two zinc-finger motifs. Dio-1 translocates to the nucleus, and activates apoptosis during limb development. Programmed cell death, a highly regulated form of apoptosis, plays an important role in determining the amount of tissue, the shape and the definition of each digit during limb development. Dio-1 expression is upregulated when an apoptotic signal is detected, and subsequently apoptosis is induced. This process is similar to the expression of NFκB and NGF in response to external signals. Dio-1 expression is suppressed by caspase inhibitors and Bcl-2 expression. This supports the theory that Dio-1 functions in the onset of programmed cell death.

## REFERENCES

1. Martin, D.P., et al. 1988. Inhibitors of protein synthesis and RNA synthesis prevent neuronal death caused by nerve growth factor deprivation. *J. Cell Biol.* 106: 829-844.
2. Jacobson, M.D., et al. 1997. Programmed cell death in animal development. *Cell* 88: 347-354.
3. Kanegae, Y., et al. 1998. Role of Rel/NFκB transcription factors during the outgrowth of the vertebrate limb. *Nature* 392: 611-614.
4. Chen, Y., et al. 1998. Shaping limbs by apoptosis. *J. Exp. Zool.* 282: 691-702.
5. Garcia-Domingo, D., et al. 1999. DIO-1 is a gene involved in onset of apoptosis *in vitro*, whose misexpression disrupts limb development. *Proc. Natl. Acad. Sci. USA* 96: 7992-7997.
6. Hock, J.M., et al. 2001. Osteoblast apoptosis and bone turnover. *J. Bone Miner. Res.* 16: 975-984.
7. Garcia-Domingo, D., et al. 2003. Death inducer-oblierator 1 triggers apoptosis after nuclear translocation and caspase upregulation. *Mol. Cell. Biol.* 23: 3216-3225.
8. Sanchez-Pulido, L., et al. 2004. SPOC: a widely distributed domain associated with cancer, apoptosis and transcription. *BMC Bioinformatics* 5: 91.

## CHROMOSOMAL LOCATION

Genetic locus:Dido1 (mouse) mapping to 2 H4.

## SOURCE

Dio-1 (I-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of Dio-1 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.

Blocking peptide available for competition studies, sc-5893 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## STORAGE

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

## APPLICATIONS

Dio-1 (I-15) is recommended for detection of Dio-1 of mouse and rat 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).

Suitable for use as control antibody for Dio-1 siRNA (m): sc-35195, Dio-1 shRNA Plasmid (m): sc-35195-SH and Dio-1 shRNA (m) Lentiviral Particles: sc-35195-V.

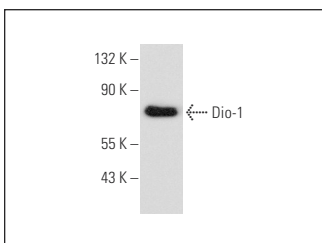
Molecular Weight of DID04/DID02/a isoforms: 244/129/61 kDa.

Positive Controls: RAW 264.7 nuclear extract: sc-24961 or KNRK whole cell lysate: sc-2214.

## 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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

## DATA



Dio-1 (I-15): sc-5893. Western blot analysis of Dio-1 expression in KNRK whole cell lysate.

## 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.