

Dia 1 (V-20): sc-10886

BACKGROUND

Dia 1, also known as DIAPH1 (diaphanous homolog 1) or DRF1, a mammalian homolog of the *Drosophila* diaphanous gene, belongs to a family of formin homology (FH) proteins which are characterized by having tandemly aligned FH1 (formin homology 1) and FH2 (formin homology 2) domains in their carboxy terminal regions. Dia 1 contains a DAD (diaphanous autoregulatory) domain, which is involved in the elongation of actin filaments, and a GBD/FH3 (Rho GTPase-binding/formin homology 3) domain, which interacts with the DAD domain via autoinhibitory interactions to regulate the activation of Dia 1. Dia 1 is required for the assembly of F-actin structures, and regulates the polymerization and depolymerization of actin filaments. Localizing to the cell membrane, Dia 1 is expressed in a wide range of tissues, including brain, heart, lung and kidney. Defects to the gene encoding Dia 1 have been linked to deafness autosomal dominant type 1 (DFNA1), a disorder characterized by sensorineural hearing loss.

CHROMOSOMAL LOCATION

Genetic locus: DIAPH1 (human) mapping to 5q31.3; Diap1 (mouse) mapping to 18 B3.

SOURCE

Dia 1 (V-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of Dia 1 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-10886 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

Dia 1 (V-20) is recommended for detection of Dia 1 of mouse, rat and human 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).

Dia 1 (V-20) is also recommended for detection of Dia 1 in additional species, including canine.

Suitable for use as control antibody for Dia 1 siRNA (h): sc-35190, Dia 1 siRNA (m): sc-35191, Dia 1 shRNA Plasmid (h): sc-35190-SH, Dia 1 shRNA Plasmid (m): sc-35191-SH, Dia 1 shRNA (h) Lentiviral Particles: sc-35190-V and Dia 1 shRNA (m) Lentiviral Particles: sc-35191-V.

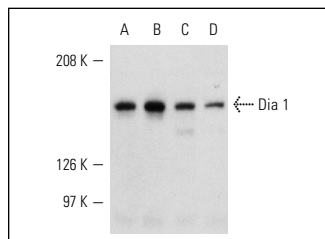
Molecular Weight of Dia 1: 140 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, HeLa + nocodazole cell lysate: sc-2274 or NIH/3T3 whole cell lysate: sc-2210.

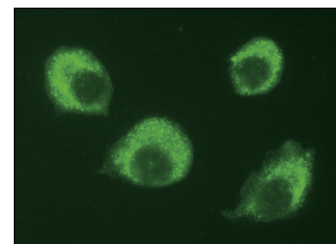
RECOMMENDED SECONDARY REAGENTS

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



Dia 1 (V-20): sc-10886. Western blot analysis of Dia 1 expression in HeLa (A), nocodazole treated HeLa (B), F9 (C) and NIH/3T3 (D) whole cell lysates.



Dia 1 (V-20): sc-10886. Immunofluorescence staining of methanol-fixed KNRK cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Sato, K., et al. 2003. Spike formation by fibroblasts adhering to fibrillar collagen I gel. *Cell Struct. Funct.* 28: 229-241.
2. Holeiter, G., et al. 2008. Deleted in liver cancer 1 controls cell migration through a Dia 1-dependent signaling pathway. *Cancer Res.* 68: 8743-8751.
3. Zhang, S., et al. 2009. RhoA regulates G₁-S progression of gastric cancer cells by modulation of multiple INK4 family tumor suppressors. *Mol. Cancer Res.* 7: 570-580.
4. Romero, A.M., et al. 2010. Chronic ethanol exposure alters the levels, assembly, and cellular organization of the actin cytoskeleton and microtubules in hippocampal neurons in primary culture. *Toxicol. Sci.* 118: 602-612.

STORAGE

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

MONOS
Satisfaction
Guaranteed

Try **Dia 1 (E-4): sc-373807** or **Dia 1 (D-3): sc-373895**, our highly recommended monoclonal alternatives to Dia 1 (V-20).