

DOCK 5 (V-15): sc-87696

BACKGROUND

DOCK 5 (dedicator of cytokinesis protein 5) is a 1,870 amino acid protein belonging to the DOCK family of cytokinesis-regulating proteins. This cytoplasmic peripheral membrane protein activates Rac 1 and Rac 2 small GTPases, while presumably acting as a guanine nucleotide exchange factor (GEF), which exchanges bound GDP for free GTP. DOCK 5 contains one DHR-1 (CZH-1) domain, one DHR-2 (CZH-2) domain and one SH3 domain. The DHR-2 domain is a putative GEF activity mediator. In mice, spontaneous mutation of the gene encoding DOCK 5 leads to deletion of the DHR-1 domain, which functions to bind phospholipids and assists in protein-protein interactions, resulting in rupture of lens cataract (RLC). Due to siRNA knockdown studies, it is suspected that DOCK 5 may also be an important mediator of Crkl/Crkl regulation of Caco-2 migration and spreading on COL4. There are two isoforms of DOCK 5 that exist as a result of alternative splicing events.

REFERENCES

1. Côte, J.F. and Vuori, K. 2002. Identification of an evolutionarily conserved superfamily of DOCK 180-related proteins with guanine nucleotide exchange activity. *J. Cell Sci.* 115: 4901-4913.
2. Sanders, M.A. and Basson, M.D. 2004. Collagen IV regulates Caco-2 migration and ERK activation via $\alpha 1\beta 1$ - and $\alpha 2\beta 1$ -integrin-dependent Src kinase activation. *Am. J. Physiol. Gastrointest. Liver Physiol.* 286: G547-G557.
3. Côte, J.F., et al. 2005. A novel and evolutionarily conserved PtdIns(3,4,5)P₃-binding domain is necessary for DOCK180 signalling. *Nat. Cell Biol.* 7: 797-807.
4. Takahashi, K., et al. 2006. Homozygous deletion and reduced expression of the DOCK8 gene in human lung cancer. *Int. J. Oncol.* 28: 321-328.
5. Omi, N., et al. 2008. Mutation of DOCK 5, a member of the guanine exchange factor DOCK 180 superfamily, in the rupture of lens cataract mouse. *Exp. Eye Res.* 86: 828-834.
6. Hara, S., et al. 2008. The DHR1 domain of DOCK 180 binds to SNX5 and regulates cation-independent mannose 6-phosphate receptor transport. *Mol. Biol. Cell* 19: 3823-3835.
7. Sanders, M.A., et al. 2009. DOCK 5 and DOCK 1 regulate Caco-2 intestinal epithelial cell spreading and migration on collagen IV. *J. Biol. Chem.* 284: 27-35.

CHROMOSOMAL LOCATION

Genetic locus: DOCK5 (human) mapping to 8p21.2; Dock5 (mouse) mapping to 14 D1.

SOURCE

DOCK 5 (V-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of DOCK 5 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 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-87696 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

DOCK 5 (V-15) is recommended for detection of DOCK 5 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); non cross-reactive with other DOCK family members.

DOCK 5 (V-15) is also recommended for detection of DOCK 5 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for DOCK 5 siRNA (h): sc-77473, DOCK 5 siRNA (m): sc-143135, DOCK 5 shRNA Plasmid (h): sc-77473-SH, DOCK 5 shRNA Plasmid (m): sc-143135-SH, DOCK 5 shRNA (h) Lentiviral Particles: sc-77473-V and DOCK 5 shRNA (m) Lentiviral Particles: sc-143135-V.

Molecular Weight of DOCK 5: 215 kDa.

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.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.