

## EDG-3 (H-70): sc-30024

### BACKGROUND

The EDG (endothelial differentiation gene) family of G protein-coupled receptors consists of eight family members that bind lysophospholipid (LPL) mediators, including sphingosine-1-phosphate (SPP) and lysophosphatidic acid (LPA). EDG-1, EDG-3, EDG-5 (also designated H218 and AGR16) and EDG-8 bind SPP with high affinity. EDG-6 is a low affinity receptor for SPP. LPA preferentially binds to EDG-2, EDG-4 and EDG-7. The EDG receptors couple to multiple G proteins to signal through Ras, MAP kinase, Rho, Phospholipase C or other tyrosine kinases, which lead to cell survival, growth, migration and differentiation. EDG-1 signals through G<sub>i</sub> proteins to activate Akt and is expressed in glioma cells. EDG-2 is expressed in brain, especially in white matter tract regions, while EDG-3 is expressed in cardiovascular tissue and in cerebellum. EDG-4 is highly expressed on leukocytes and brain, and EDG-5 has wide tissue distribution, including cardiovascular tissue and brain. Expressed in lymphoid and hematopoietic tissues and in lung, EDG-6 signals through G<sub>i/o</sub> proteins, which activate growth related pathways.

### REFERENCES

- Goetzl, E.J., et al. 1999. A subfamily of G protein-coupled cellular receptors for lysophospholipids and lysosphingolipids. *Adv. Exp. Med. Biol.* 469: 259-264.
- Van Brocklyn, J.R., et al. 2000. Sphingosine-1-phosphate is a ligand for the G protein-coupled receptor EDG-6. *Blood* 95: 2624-2629.
- Sato, K., et al. 2000. Differential roles of EDG-1 and EDG-5, sphingosine 1-phosphate receptors, in the signaling pathways in C6 glioma cells. *Brain Res. Mol. Brain Res.* 85: 151-160.
- Pyne, S., et al. 2000. Sphingosine 1-phosphate signalling in mammalian cells. *Biochem. J.* 349: 385-402.

### CHROMOSOMAL LOCATION

Genetic locus: S1PR3 (human) mapping to 9q22.1; S1pr3 (mouse) mapping to 13 A5.

### SOURCE

EDG-3 (H-70) is a rabbit polyclonal antibody raised against amino acids 309-378 mapping within a C-terminal cytoplasmic domain of EDG-3 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.

### 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.

### APPLICATIONS

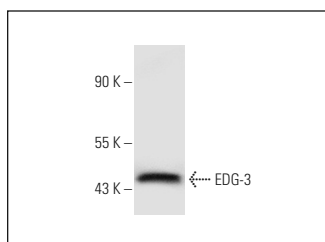
EDG-3 (H-70) is recommended for detection of EDG-3 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), 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 EDG-3 siRNA (h): sc-35261, EDG-3 siRNA (m): sc-35262, EDG-3 shRNA Plasmid (h): sc-35261-SH, EDG-3 shRNA Plasmid (m): sc-35262-SH, EDG-3 shRNA (h) Lentiviral Particles: sc-35261-V and EDG-3 shRNA (m) Lentiviral Particles: sc-35262-V.

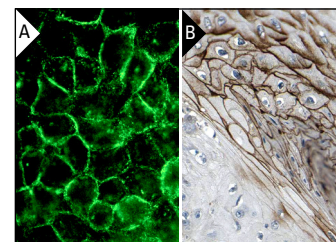
Molecular Weight of EDG-3: 45 kDa.

Positive Controls: mouse liver extract: sc-2256, HeLa whole cell lysate: sc-2200 or Hep G2 cell lysate: sc-2227.

### DATA



EDG-3 (H-70): sc-30024. Western blot analysis of EDG-3 expression in HeLa whole cell lysate.



EDG-3 (H-70): sc-30024. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human skin cancer tissue showing membrane staining of tumor cells. Kindly provided by The Swedish Human Protein Atlas (HPA) program (B).

### SELECT PRODUCT CITATIONS

- Li, C., et al. 2009. Involvement of sphingosine 1-phosphate (SIP)/S1P3 signaling in cholestasis-induced liver fibrosis. *Am. J. Pathol.* 175: 1464-1472.
- Liu, X., et al. 2011. Essential roles of sphingosine 1-phosphate receptor types 1 and 3 in human hepatic stellate cells motility and activation. *J. Cell. Physiol.* 226: 2370-2377.
- Sekizawa, N., et al. 2011. Transcriptome analysis of aldosterone-regulated genes in human vascular endothelial cell lines stably expressing mineralocorticoid receptor. *Mol. Cell. Endocrinol.* 341: 78-88.
- Qu, Z., et al. 2012. Differential expression of sphingosine-1-phosphate receptors in abdominal aortic aneurysms. *Mediators Inflamm.* 2012: 643609.
- Hsu, C.K., et al. 2015. Sphingosine-1-phosphate mediates COX-2 expression and PGE<sub>2</sub>/IL-6 secretion via c-Src-dependent AP-1 activation. *J. Cell. Physiol.* 230: 702-715.