

# EDG-1 (V-18): sc-31625

## 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 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. and An, S. 1999. A subfamily of G protein-coupled cellular receptors for lysophospholipids and lysosphingolipids. *Adv. Exp. Med. Biol.* 469: 259-264.
- Van Brocklyn, J.R., Graler, M.H., Bernhardt, G., Hobson, J.P., Lipp, M. and Spiegel, S. 2000. Sphingosine-1-phosphate is a ligand for the G protein-coupled receptor EDG-6. *Blood* 95: 2624-2629.1.
- Sato, K., Ui, M. and Okajima, F. 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. and Pyne, N.J. 2000. Sphingosine 1-phosphate signalling in mammalian cells. *Biochem. J.* 349: 385-402.
- Zheng, Y., Kong, Y. and Goetzl, E.J. 2001. Lysophosphatidic acid receptor-selective effects on Jurkat T cell migration through a matrigel model basement membrane. *J. Immunol.* 166: 2317-2322.
- Morales-Ruiz, M., Lee, M.J., Zoellner, S., Gratton, J.P., Scotland, R., Shiojima, I., Walsh, K., Hla, T. and Sessa, W.C. 2001. Sphingosine-1-phosphate activates Akt, nitric oxide production and chemotaxis through a G<sub>i</sub>-protein/phosphoinositide 3-kinase pathway in endothelial cells. *J. Biol. Chem.* 276: 19672-19677.
- Handford, E. J., Smith, D., Hewson, L., McAllister, G. and Beer, M.S. 2001. Edg2 receptor distribution in adult rat brain. *Neuroreport* 12: 757-760.

## CHROMOSOMAL LOCATION

Genetic locus: EDG1 (human) mapping to 1p21.2; Edg1 (mouse) mapping to 3 G1.

## SOURCE

EDG-1 (V-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping within a cytoplasmic domain of EDG-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-31625 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

EDG-1 (V-18) is recommended for detection of EDG-1 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).

EDG-1 (V-18) is also recommended for detection of EDG-1 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for EDG-1 siRNA (h): sc-37086, EDG-1 siRNA (m): sc-37087, EDG-1 shRNA Plasmid (h): sc-37086-SH, EDG-1 shRNA Plasmid (m): sc-37087-SH, EDG-1 shRNA (h) Lentiviral Particles: sc-37086-V and EDG-1 shRNA (m) Lentiviral Particles: sc-37087-V.

Molecular Weight of EDG-1: 38 kDa.

Positive Controls: Mouse brain extract: sc-2253 or rat brain extract: sc-2392.

## 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.

## 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.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.



Try **EDG-1 (A-6): sc-48356** or **EDG-1 (F-6): sc-271423**, our highly recommended monoclonal alternatives to EDG-1 (V-18). Also, for AC, HRP, FITC, PE, Alexa Fluor<sup>®</sup> 488 and Alexa Fluor<sup>®</sup> 647 conjugates, see **EDG-1 (A-6): sc-48356**.