

## EDG-3 (G-17): sc-22211

### 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>1/0</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.
- Zheng, Y., et al. 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., et al. 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., et al. 2001. EDG-2 receptor distribution in adult rat brain. *Neuroreport* 12: 757-760.

### CHROMOSOMAL LOCATION

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

### SOURCE

EDG-3 (G-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of EDG-3 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-22211 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

### APPLICATIONS

EDG-3 (G-17) is recommended for detection of EDG-3 of human and, to a lesser extent, mouse and rat 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).

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.

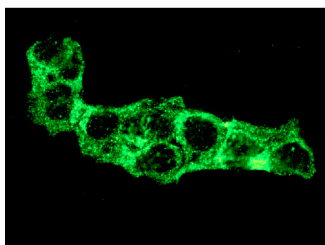
Molecular Weight of EDG-3: 45 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227 or HeLa whole cell lysate: sc-2200.

### 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.

### DATA



EDG-3 (G-17): sc-22211. Immunofluorescence staining of methanol-fixed Hep G2 cells showing membrane localization.

### 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.