



## EDG-4 (A-18): sc-16081

### 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

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- 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.
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- Handford, E. J., Smith, D., Hewson, L., McAllister, G. and Beer, M.S. 2001. EDG-2 receptor distribution in adult rat brain. *Neuroreport* 12: 757-760.

### CHROMOSOMAL LOCATION

Genetic locus: EDG4 (human) mapping to 19p12; Edg4 (mouse) mapping to 8 B3.3.

### SOURCE

EDG-4 (A-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of EDG-4 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-16081 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

### APPLICATIONS

EDG-4 (A-18) is recommended for detection of EDG-4 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).

Suitable for use as control antibody for EDG-4 siRNA (h): sc-39926 and EDG-4 siRNA (m): sc-39927.

Molecular Weight of EDG-4: 50 kDa.

Positive Controls: BT-20 cell lysate: sc-2223, MDA-MB-231 cell lysate: sc-2232 or ES-2 cell lysate: sc-24674.

### 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.

### SELECT PRODUCT CITATIONS

- Jin, Y., et al. 2003. Lysophosphatidic acid induces human natural killer cell chemotaxis and intracellular calcium mobilization. *Eur. J. Immunol.* 33: 2083-2089.

### 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.