

EDG-1 (F-6): sc-271423

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_i 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_{i/o} proteins, which activate growth related pathways.

REFERENCES

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- 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.
- Pyne, S., et al. 2000. Sphingosine 1-phosphate signalling in mammalian cells. *Biochem. J.* 349: 385-402.
- 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.
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- Morales-Ruiz, M., et al. 2001. Sphingosine-1-phosphate activates Akt, nitric oxide production and chemotaxis through a G_i-protein/phosphoinositide 3-kinase pathway in endothelial cells. *J. Biol. Chem.* 276: 19672-19677.
- Handford, E.J., et al. 2001. Edg2 receptor distribution in adult rat brain. *Neuroreport* 12: 757-760.

CHROMOSOMAL LOCATION

Genetic locus: S1PR1 (human) mapping to 1p21.2.

SOURCE

EDG-1 (F-6) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 302-351 near the C-terminus of EDG-1 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 IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-271423 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

EDG-1 (F-6) is recommended for detection of EDG-1 of human origin by Western Blotting (starting dilution 1:100, 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

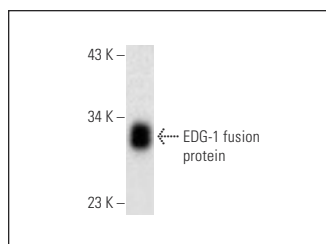
Suitable for use as control antibody for EDG-1 siRNA (h): sc-37086, EDG-1 shRNA Plasmid (h): sc-37086-SH and EDG-1 shRNA (h) Lentiviral Particles: sc-37086-V.

Molecular Weight of EDG-1: 38 kDa.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



EDG-1 (F-6): sc-271423. Western blot analysis of EDG-1 expression in human recombinant fusion protein.

RESEARCH USE

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

PROTOCOLS

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