

EDG-7 (H-60): sc-25492

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

- 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.
- 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_i protein/phosphoinositide 3-kinase pathway in endothelial cells. *J. Biol. Chem.* 276: 19672-19677.

CHROMOSOMAL LOCATION

Genetic locus: LPAR3 (human) mapping to 1p22.3; Lpar3 (mouse) mapping to 3 H2.

SOURCE

EDG-7 (H-60) is a rabbit polyclonal antibody raised against amino acids 294-353 of EDG-7 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.

APPLICATIONS

EDG-7 (H-60) is recommended for detection of EDG-7 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

EDG-7 (H-60) is also recommended for detection of EDG-7 in additional species, including equine and canine.

Suitable for use as control antibody for EDG-7 siRNA (h): sc-37088, EDG-7 siRNA (m): sc-37089, EDG-7 shRNA Plasmid (h): sc-37088-SH, EDG-7 shRNA Plasmid (m): sc-37089-SH, EDG-7 shRNA (h) Lentiviral Particles: sc-37088-V and EDG-7 shRNA (m) Lentiviral Particles: sc-37089-V.

Molecular Weight of EDG-7: 40 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204 or SK-N-MC cell lysate: sc-2237.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

- Kowalczyk-Zieba, I., Boruszewska, D., Saulnier-Blache, J.S., Lopes Da Costa, L., Jankowska, K., Skarzynski, D.J. and Woclawek-Potocka, I. 2012. Lysophosphatidic acid action in the bovine corpus luteum—an *in vitro* study. *J. Reprod. Dev.* 58: 661-671.

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.



Try **EDG-7 (C-7): sc-390270**, our highly recommended monoclonal alternative to EDG-7 (H-60).