

EDG-4 (H-55): sc-25490

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., 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. and Pyne, N.J. 2000. Sphingosine 1-phosphate signalling in mammalian cells. *Biochem. J.* 349: 385-402.
- 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.

CHROMOSOMAL LOCATION

Genetic locus: LPAR2 (human) mapping to 19p13.11; Lpar2 (mouse) mapping to 8 B3.3.

SOURCE

EDG-4 (H-55) is a rabbit polyclonal antibody raised against amino acids 131-185 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.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

EDG-4 (H-55) 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), 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-4 (H-55) is also recommended for detection of EDG-4 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for EDG-4 siRNA (h): sc-39926, EDG-4 siRNA (m): sc-39927, EDG-4 shRNA Plasmid (h): sc-39926-SH, EDG-4 shRNA Plasmid (m): sc-39927-SH, EDG-4 shRNA (h) Lentiviral Particles: sc-39926-V and EDG-4 shRNA (m) Lentiviral Particles: sc-39927-V.

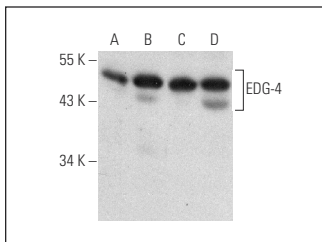
Molecular Weight of EDG-4: 50 kDa.

Positive Controls: BT-20 cell lysate: sc-2223, MDA-MB-231 cell lysate: sc-2232 or OV-90 whole cell lysate: sc-364191.

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.

DATA



EDG-4 (H-55): sc-25490. Western blot analysis of EDG-4 expression in BT-20 (A), MDA-MB-231 (B), CHO-K1 (C) and OV-90 (D) whole cell lysates.

SELECT PRODUCT CITATIONS

- Kowalczyk-Zieba, I., et al. 2012. Lysophosphatidic acid action in the bovine corpus luteum — an *in vitro* study. *J. Reprod. Dev.* 58: 661-671.

RESEARCH USE

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