

Product Information

Anti-Endothelial Cell Differentiation Gene 6 (EDG-6) C-Terminal

Developed in Rabbit, Fractionated Antisera

Product Number **E 7653**

Product Description

Anti-EDG-6 (Endothelial Cell Differentiation Gene-6) C-terminal antibody is developed in rabbit using a KLH (Keyhole Limpet Hemocyanin)-tagged synthetic peptide derived from the C-terminal region of human EDG-6 receptor as immunogen. The serum is purified by ammonium sulfate precipitation and then dialyzed to prevent exposure to extreme pH changes.

Anti-EDG-6 recognizes human recombinant and native EDG-6 (~45 kDa). It has been used in immunoblotting applications.

The lysosphingolipid sphingosine-1-phosphate (S1P) and the structurally related lipid lysophosphatidic acid (LPA) elicit a wide spectrum of biological responses in a variety of cell types, including calcium mobilization, mitogenesis, cell-shape changes, migration and contraction. S1P and LPA have been implicated in a variety of pathophysiological conditions, including blood clotting, subarachnoid hemorrhage, inflammation and colitis. S1P mediates some of its activities intracellularly by acting as a second messenger, while LPA may mediate mitogenesis and platelet aggregation via an EDG receptor-independent mechanism. LPA is also an anti-apoptotic factor.

Recent studies have identified the existence of the G protein-coupled heptahelical receptor subfamily (Endothelial Cell Differentiation Genes) for the biologically active lysophospholipids, which consists of two receptor subgroups specific for S1P and LPA, respectively. The S1P receptor subgroup comprises five members: EDG-1, -3, -5/AGR16, -6, and -8, with considerable amino acid similarity among them. The LPA subgroup includes EDG-2, -4, and -7.^{1,2} EDG receptors are developmentally regulated and differ in their tissue expression. The amino acid sequence similarity between EDG receptors reflects the similarity of S1P and LPA.

cDNAs encoding EDG-6, a novel G-protein-coupled receptor related to the receptors for bioactive l

ysophospholipids, was cloned in 1998 from differentiated *in vitro* human and murine dendritic cells. EDG-6 is specifically expressed in fetal and adult lymphoid and hematopoietic tissue as well as in lung. The 384-amino acid EDG-6 receptor protein has 7 transmembrane domains. The expression pattern of EDG-6 is strongly conserved in human and mouse. Homology of EDG-6 to the known SP1 receptors EDG-1, -3, and -5 and to the LPA receptors EDG-2 and -4 suggested that its ligand might be a lysophospholipid or lysosphingolipid.^{3,4}

Reagent

Anti-EDG-6 is supplied as approximately 100 µg antibody in 100 µl of sterile phosphate buffered saline, pH 7.3, with 0.08% sodium azide as a preservative.

Precautions and Disclaimer

Due to the sodium azide content, a material safety data sheet (MSDS) for this product has been sent to the attention of the safety officer of your institution. Consult the MSDS for information regarding hazards and safe handling practices.

Storage/Stability

Store at -20 °C. For extended storage, freeze in working aliquots. Avoid repeated freezing and thawing to prevent denaturing of the antibody. Do not store in a frost-free freezer. The antibody is stable for at least 12 months when stored appropriately.

Product Profile

A recommended working concentration of 5 to 10 µg/ml is determined by immunoblotting using COS cells transfected with full length EDG-6. Data show the specificity of Anti-EDG-6 for the EDG-6 receptor protein (45 kDa). Preincubation of the antibody with the immunizing peptide blocks detection of EDG-6. To detect native EDG-6 in cells and tissues, use higher antibody concentrations.

Note: In order to obtain best results in different techniques and preparations we recommend determining optimal working concentration by titration test.

References

1. Kupperman, E., et al., A sphingosine-1-phosphate receptor regulates cell migration during vertebrate heart development. *Nature*, **406**, 192-195 (2000).
2. Takuwa, Y., et al., Subtype-specific, differential activities of the EDG family receptor sphingosine-1-phosphate, a novel lysophospholipid mediator. *Mol. Cell Endocrinol.*, **177**, 3-11 (2001).
3. Graler, M., et al., EDG6, a novel G-protein-coupled receptor related to receptors for bioactive lysophospholipids, is specifically expressed in lymphoid tissue. *Genomics*, **53**, 164-169 (1998).
4. Van Brocklyn, J.R., et al., Sphingosine-1-phosphate is a ligand for the G protein-coupled receptor EDG-6. *Blood*, **95**, 2624-2629 (2001).

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