Daresbury Proteins

Product description

Name: **Recombinant Human Secretory Phospholipase A2 Receptor 1, PLA2R1**

Synonyms: 180 kDa secretory phospholipase A2 receptor, C-type lectin domain family 13 member C, M-type receptor.

Species: Human

Source: HEK293

Amino Acids: 21-663

Tag: 10xHis at the C terminus

Predicted Molecular Weight: 75.8 kDa

Protein ID: Q13018

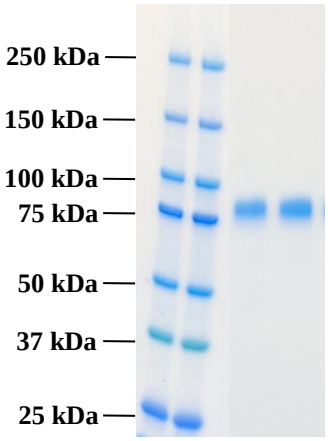
Sequence:

AEGVAAALTPERLLEWQDKGIFVIQSESLKKCIQAGKSVLTLENCKQANKHMLWKWVSNHGLFNIGGSGCLGLNFSAPEQ PLSLYECDSTLVSLRWRCNRKMITGPLQYSVQVAHDNTVVASRKYIHKWISYGSGGGDICEYLHKDLHTIKGNTHGMPCM FPFQYNHQWHHECTREGREDDLLWCATTSRYERDEKWGFCPDPTSAEVGCDTIWEKDLNSHICYQFNLLSSLSWSEAHS SCQMQGGTLLSITDETEENFIREHMSSKTVEVWMGLNQLDEHAGWQWSDGTPLNYLNWSPEVNFEPFVEDHCGTFSSF MPSAWRSRDCESTLPYICKKYLNHIDHEIVEKDAWKYYATHCEPGWNPYNRNCYKLQKEEKTWHEALRSCQADNSALID ITSLAEVEFLVTLLGDENASETWIGLSSNKIPVSFEWSNDSSVIFTNWHTLEPHIFPNRSQLCVSAEQSEGHWKVKNCEERL FYICKKAGHVLSDAESGCQEGWERHGGFCYKIDTVLRSFDQASSGYYCPPALVTITNRFEQAFITSLISSVVKMKDSYFWIA LQDQNDTGEYTWKPVGQKPEPVQYTHWNTHQPRYSGGCVAMRGRHPLGRWEVKHCRHFKAMSLCKQPVENQEKAEY EERWPFHPGSGHHHHHHHHHH

Product specifications

Estimated Molecular Weight, SDS-PAGE: ≈85 kDa

Grade & Purity: >95% as estimated by SDS-PAGE stained with Instant Blue Stain (Expedeon).



Endotoxins: Less than 0.1 ng/µg (1 IEU/µg), as measured by LAL method.

Formulation: PBS 20% Glycerol

Shipping

Product is shipped either on dry or wet ice. Upon receipt, store at -20°C to -70°C.

Product application and Storage

Storage: The protein should be stored at -20°C to -70°C preferably in small aliquots to avoid repeated freeze-thaw cycles.

Stability: At least 12 months at -20°C to -70°C and at least 1 month at 2°C to 8°C.

Application Note: For research purposes only. Not for use in humans.

Background Information

PLA2R is a type I transmembrane glycoprotein of 180–200 kDa and is present in a wide variety of cells and tissues (1). Receptor for secretory phospholipase A2 (sPLA2) belonging to the mannose receptor family (2). It is composed of a large extracellular N-terminal portion, consisting of a N-terminal cystein-rich region, a fibronectin-like type II domain, a tandem repeat of eight carbohydrate-recognition domains essential for ligand binding, and short intracellular C-terminal region. Acts as a receptor for phosholipase sPLA2-IB/PLA2G1B. Also able to bind to snake PA2-like toxins. Binding of sPLA2-IB/PLA2G1B induces various effects depending on the cell type, such as activation of the mitogen-activated protein kinase (MAPK) cascade to induce cell proliferation, the production of lipid mediators, selective release of arachidonic acid in bone marrow-derived mast cells. In neutrophils, binding of sPLA2-IB/PLA2G1B can activate p38 MAPK to stimulate elastase release and cell adhesion. May be involved in responses in proinflammatory cytokine productions during endotoxic shock (3). The soluble secretory phospholipase A2 receptor form is circulating and acts as a negative regulator of sPLA2 functions by blocking the biological functions of sPLA2-IB/PLA2G1B.

PLA2R is expressed on the surface of podocytes and represents a target autoantigen in 70% of patients with idiopathic membranous nephropathy (4). It has a diagnostic value in detecting and quantifying anti-PLA2R autoimmunity.

Publications: This product has been used in the following publication:

Fresquet M., Jowitt TA., Gummadova J., Collins R., O'Cualain R., McKenzie EA., Lennon R. and PE. Brenchley. *Identification of a Major Epitope Recognised by PLA2R Autoantibodies in Primary Membranous Nephropathy.* Journal of American Society of Nephrology. Vol. 26, No 2, pp 302-313. 2015.

References:

1. Ancian et al. (1995) *J. Biol. Chem.,* 8963-8970
2. East and Isacke. (2002) *Biochim. Biophys. Acta*, 364-386
3. Hanasaki et al. (1997) *J. Biol. Chem.*, 32792-32797
4. Beck et al. (2009) *N. Engl. J. Med*., 11-21