

EPCR Protein, Human, Recombinant (hFc)

General Information

Synonyms:	CCCA;protein C receptor, endothelial;CCD41;EPCR
Protein Construction:	A DNA sequence encoding the human PROCR (AAH14451.1) (Met1-Thr209) was expressed, fused with the Fc region of human IgG1 at the C-terminus. Predicted N terminal: Ser 18
Species:	Human
Expression Host:	HEK293 Cells
Accession:	AAH14451.1
Molecular Weight:	48.9 kDa (predicted); 120 and 65 kDa (reducing conditions)

QC Testing

Biological Activity:	Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 95 % as determined by SDS-PAGE. > 90 % as determined by SEC-HPLC.
Endotoxin:	< 1.0 EU/µg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 µm filter, containing PBS, pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:
A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

Endothelial protein C receptor (EPCR), also known as activated protein C receptor (APC receptor) or PROCR, is a receptor for Protein C. Protein C plays an important role in many metabolism processes in humans and other animals after activated by binding to Endothelial protein C receptor (EPCR). Because of the EPCR is found primarily on endothelial cells (cells on the inside of blood vessels), activated protein C is found mainly near endothelial cells. Protein C is pleiotropic, with two main functions: anticoagulation and cytoprotection. Which function will be

performed depending on whether or not protein C remains bind to EPCR after activated. The anticoagulation occurs when it does not. In this case, protein C functions as an anticoagulant by irreversibly proteolytically inactivating Factor Va and Factor VIIIa, turning them into Factor Vi and Factor VIIIi respectively. When still bound to EPCR, activated protein C performs its cytoprotective effects, acting on the effector substrate PAR-1, protease-activated receptor-1. To a degree, APC's anticoagulant properties are independent of its cytoprotective ones, in that expression of one pathway is not affected by the existence of the other.

Reference

- Nicolaes GA,et al. (2003). Congenital and acquired activated protein C resistance. *Semin Vasc Med.* 3 (1): 33-46.
Esmon CT. (2003). The protein C pathway. *Chest* 124 (3): 26-32.
Mosnier LO,et al. (2007)The cytoprotective protein C pathway. *Blood.* 109: 3161-72.

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