

Datasheet for ABIN2192007
anti-PROCR antibody



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Overview

Quantity:	100 µg
Target:	PROCR
Reactivity:	Human
Host:	Rat
Clonality:	Monoclonal
Conjugate:	This PROCR antibody is un-conjugated
Application:	Western Blotting (WB), Flow Cytometry (FACS), Functional Studies (Func)

Product Details

Clone:	RCR-252
Sterility:	0.2 µm filtered

Target Details

Target:	PROCR
Alternative Name:	Endothelial Protein C Receptor (PROCR Products)
Background:	The monoclonal antibody RCR-252 recognizes human endothelial protein C receptor (EPCR), a highly glycosylated type I transmembrane protein of 221-amino-acids. These amino acids comprise an extracellular domain, a 25-aa transmembrane domain, and a short (3 aa) intracytoplasmic sequence coding for an ~46 kDa protein. Deglycosylation will reduce the protein mass to 25 kDa. EPCR is expressed strongly on the endothelial cells of arteries and veins in heart and lung, less intensely in capillaries in the lung and skin, and not at all in the

Target Details

endothelium of small vessels of the liver and kidney. EPCR is the receptor for protein C, a key player in the anticoagulation pathway. The protein C anticoagulant pathway serves as a major system for controlling thrombosis, limiting inflammatory responses, and potentially decreasing endothelial cell apoptosis in response to inflammatory cytokines and ischemia. The essential components of the pathway include thrombin, thrombomodulin, the endothelial cell protein C receptor (EPCR), protein C and protein S. The pathway is initiated when thrombin binds to thrombomodulin on the surface of endothelium. EPCR augments protein C activation by binding protein C and presenting it to the thrombin-thrombomodulin activation complex. Activated protein C (aPC) retains its ability to bind EPCR, and this complex appears to be involved in some of the cellular signaling mechanisms that down-regulate inflammatory cytokine formation (TNF, IL-6). EPCR is shed from the vasculature by inflammatory mediators and thrombin. EPCR binds to activated neutrophils in a process that involves proteinase 3 and Mac-1. Furthermore, EPCR can undergo translocation from the plasma membrane to the nucleus. EPCR can be cleaved to release a soluble form (sEPCR) in the circulation. This sEPCR is detected as a single species of 43 kDa, resulting from shedding of membrane EPCR by the action of a metalloprotease, which is stimulated by thrombin and by some inflammatory mediators. Soluble EPCR binds PC and aPC with similar affinity, but its binding to aPC inhibits the anticoagulant activity of aPC by blocking its binding to phospholipids and by abrogating its ability to inactivate factor Va. sEPCR can be detected in plasma. In normal persons, sEPCR is present in levels of 83.6 +/- 17.2 ng/mL. Elevated levels of sEPCR are positively correlated to a higher risk for thrombosis. Furthermore, a haplotype (A3 allele) has been linked to elevated levels of sEPCR (264 +/-174 ng/mL). Aliases Activated protein C receptor, CD201, Endothelial cell protein C receptor Immunogen Human EPCR-positive RE-1 cells

Application Details

Application Notes:	For flow cytometry and Western blot dilutions to be used depend on detection system applied. It is recommended that users test the reagent and determine their own optimal dilutions. The typical starting working dilution is 1:50. For functional studies, in vitro dilutions have to be optimized in user's experimental setting. Positive RE-1 (rat 3Y1 fibroblasts stably transfected with human EPCR. control Negative N1 cells control
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Restrictions:	For Research Use only
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Handling

Buffer:	PBS, containing 0.1 % bovine serum albumin.
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Handling

Storage: 4 °C

Storage Comment: Product should be stored at 4 °C. Under recommended storage conditions, product is stable for at least one year. The exact expiry date is indicated on the label.

Publications

Product cited in: Bae, Yang, Rezaie: "Receptors of the protein C activation and activated protein C signaling pathways are colocalized in lipid rafts of endothelial cells." in: **Proceedings of the National Academy of Sciences of the United States of America**, Vol. 104, Issue 8, pp. 2867-72, (2007) ([PubMed](#)).

Finigan, Dudek, Singleton, Chiang, Jacobson, Camp, Ye, Garcia: "Activated protein C mediates novel lung endothelial barrier enhancement: role of sphingosine 1-phosphate receptor transactivation." in: **The Journal of biological chemistry**, Vol. 280, Issue 17, pp. 17286-93, (2005) ([PubMed](#)).

Dömötör, Benzakour, Griffin, Yule, Fukudome, Zlokovic: "Activated protein C alters cytosolic calcium flux in human brain endothelium via binding to endothelial protein C receptor and activation of protease activated receptor-1." in: **Blood**, Vol. 101, Issue 12, pp. 4797-801, (2003) ([PubMed](#)).

Sturn, Kaneider, Feistritzer, Djanani, Fukudome, Wiedermann: "Expression and function of the endothelial protein C receptor in human neutrophils." in: **Blood**, Vol. 102, Issue 4, pp. 1499-505, (2003) ([PubMed](#)).

Ye, Fukudome, Tsuneyoshi, Satoh, Tokunaga, Sugawara, Mizokami, Kimoto: "The endothelial cell protein C receptor (EPCR) functions as a primary receptor for protein C activation on endothelial cells in arteries, veins, and capillaries." in: **Biochemical and biophysical research communications**, Vol. 259, Issue 3, pp. 671-7, (1999) ([PubMed](#)).