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protein C Rabbit pAb

Catalog # AP100145

Product Information

Application	WB, IHC-P, IHC-F, IF
Primary Accession	P04070
Other Accession	P04070
Reactivity	Rat, Human, Mouse
Predicted	Pig, Chicken, Dog
Host	Rabbit
Clonality	Polyclonal
Calculated MW	52071
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human Vitamin K-dependent protein C heavy chain
Epitope Specificity	371-460/461
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SIMILARITY	Belongs to the peptidase S1 family. Contains 2 EGF-like domains. Contains 1 Gla (gamma-carboxy-glutamate) domain. Contains 1 peptidase S1 domain.
SUBUNIT	Synthesized as a single chain precursor, which is cleaved into a light chain and a heavy chain held together by a disulfide bond. The enzyme is then activated by thrombin, which cleaves a tetradecapeptide from the amino end of the heavy chain; this reaction, which occurs at the surface of endothelial cells, is strongly promoted by thrombomodulin.
Post-translational modifications	The vitamin K-dependent, enzymatic carboxylation of some Glu residues allows the modified protein to bind calcium. N- and O-glycosylated. Partial (70%) N-glycosylation of Asn-371 with an atypical N-X-C site produces a higher molecular weight form referred to as alpha. The lower molecular weight form, not N-glycosylated at Asn-371, is beta. O-glycosylated with core 1 or possibly core 8 glycans. The iron and 2-oxoglutarate dependent 3-hydroxylation of aspartate and asparagine is (R) stereospecific within EGF domains. May be phosphorylated on a Ser or Thr in a region (AA 25-30) of the propeptide.
DISEASE	Defects in PROC are the cause of thrombophilia due to protein C deficiency, autosomal dominant (THPH3) [MIM:176860]. A hemostatic disorder characterized by impaired regulation of blood coagulation and a tendency to recurrent venous thrombosis. However, many adults with heterozygous disease may be asymptomatic. Individuals with decreased amounts of protein C are classically referred to as having type I protein C deficiency and those with normal amounts of a functionally defective protein as having type II deficiency. Defects in PROC are the cause of thrombophilia due to protein C deficiency, autosomal recessive (THPH4) [MIM:612304]. A hemostatic disorder characterized by impaired regulation of blood coagulation and a tendency to recurrent venous thrombosis. It results in a thrombotic condition that can manifest as a severe neonatal disorder or as a milder disorder with late-onset thrombophilia. The severe form leads to neonatal death through massive neonatal venous thrombosis. Often associated with ecchymotic skin lesions which can turn necrotic called purpura fulminans, this disorder is very rare.

Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	This gene encodes a vitamin K-dependent plasma glycoprotein. The encoded protein is cleaved to its activated form by the thrombin-thrombomodulin complex. This activated form contains a serine protease domain and functions in degradation of the activated forms of coagulation factors V and VIII. Mutations in this gene have been associated with thrombophilia due to protein C deficiency, neonatal purpura fulminans, and recurrent venous thrombosis.[provided by RefSeq, Dec 2009].

Additional Information

Gene ID	5624
Other Names	APC; PC; PROC1; THPH3; THPH4; PROC_HUMAN; PROC; Anticoagulant protein C; Autoprothrombin IIA; Blood coagulation factor XIV; 3.4.21.69; protein C, inactivator of coagulation factors Va and VIIIa; protein C (inactivator of coagulation factors Va and VIIIa); prepro-protein C; coagulation factor XIV
Dilution	WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

Name	PROC
Function	Protein C is a vitamin K-dependent serine protease that regulates blood coagulation by inactivating factors Va and VIIIa in the presence of calcium ions and phospholipids (PubMed:25618265, PubMed:39880037). Exerts a protective effect on the endothelial cell barrier function (PubMed:25651845).
Cellular Location	Secreted. Golgi apparatus Endoplasmic reticulum
Tissue Location	Plasma; synthesized in the liver.

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