

PCSK9 Protein, Rat (HEK293, His)

Cat. No.:	HY-P73340
Synonyms:	Proprotein convertase subtilisin/kexin type 9; NARC-1; PC9; PCSK9
Species:	Rat
Source:	HEK293
Accession:	P59996 (Q31-Q691)
Gene ID:	298296
Molecular Weight:	Approximately 17.26 & 60.16kDa

PROPERTIES

AA Sequence

M G I R C S T W L	R W P L S P Q L L	L L L L L C P T G	S R A Q D E D G D
Y E E L M L A L P	S Q E D S L V D E	A S H V A T A T F	R R C S K E A W R
L P G T Y V V V L	M E E T Q R L Q V	E Q T A H R L Q T	W A A R R G Y V I
K V L H V F Y D L	F P G F L V K M S	S D L L G L A L K	L P H V E Y I E E
D S L V F A Q S I	P W N L E R I I P	A W Q Q T E E D S	S P D G S S Q V E
V Y L L D T S I Q	S G H R E I E G R	V T I T D F N S V	P E E D G T R F H
R Q A S K C D S H	G T H L A G V V S	G R D A G V A K G	T S L H S L R V L
N C Q G K G T V S	G T L I G L E F I	R K S Q L I Q P S	G P L V V L L P L
A G G Y S R I L N	T A C Q R L A R T	G V V L V A A A G	N F R D D A C L Y
S P A S A P E V I	T V G A T N A Q D	Q P V T L G T L G	T N F G R C V D L
F A P G K D I I G	A S S D C S T C Y	M S Q S G T S Q A	A A H V A G I V A
M M L N R D P A L	T L A E L R Q R L	I L F S T K D V I	N M A W F P E D Q
R V L T P N R V A	T L P P S T Q E T	G G Q L L C R T V	W S A H S G P T R
T A T A T A R C A	P E E E L L S C S	S F S R S G R R R	G D R I E A I G G
Q Q V C K A L N A	F G G E G V Y A V	A R C C L L P R V	N C S I H N T P A
A R A G P Q T P V	H C H Q K D H V L	T G C S F H W E V	E N L R A Q Q Q P
L L R S R H Q P G	Q C V G H Q E A S	V H A S C C H A P	G L E C K I K E H
G I A G P A E Q V	T V A C E A G W T	L T G C N V L P G	A S L P L G A Y S
V D N V C V A R I	R D A G R A D R T	S E E A T V A A A	I C C R S R P S A
K A S W V H Q			

Biological Activity	The enzyme activity of this recombinant protein is testing in progress, we cannot offer a guarantee yet.
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Appearance	Lyophilized powder.
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Formulation	Lyophilized from a 0.2 µm filtered solution of 20 mM PB, 150 mM NaCl, pH 7.8.
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Endotoxin Level	<1 EU/µg, determined by LAL method.
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Reconstitution	It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH ₂ O. For long term storage it is recommended to add a carrier protein (0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose).
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Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background

The PCSK9 protein plays a pivotal role in the regulation of plasma cholesterol homeostasis, exerting its influence through interactions with members of the low-density lipid receptor family, including low-density lipoprotein receptor (LDLR), very low-density lipoprotein receptor (VLDLR), apolipoprotein E receptor (LRP1/APOER), and apolipoprotein receptor 2 (LRP8/APOER2). PCSK9 facilitates the degradation of these receptors within intracellular acidic compartments, employing a non-proteolytic mechanism to enhance hepatic LDLR degradation via a clathrin LDLRAP1/ARH-mediated pathway. Additionally, it may impede LDLR recycling from endosomes to the cell surface, directing it to lysosomes for degradation, and induce ubiquitination of LDLR, leading to subsequent degradation. Notably, PCSK9 extends its regulatory influence beyond LDLR, inhibiting the intracellular degradation of APOB independently of LDLR, and participating in the disposal of non-acetylated intermediates of BACE1 in the early secretory pathway. Furthermore, PCSK9's impact extends to epithelial Na(+) channel (ENaC)-mediated Na(+) absorption, reducing ENaC surface expression primarily through increased proteasomal degradation. The protein also modulates neuronal apoptosis by regulating LRP8/APOER2 levels and associated anti-apoptotic signaling pathways.

Caution: Product has not been fully validated for medical applications. For research use only.

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