Cerberus 1/CER1 Protein, Human (HEK293, His)

Cat. No.:	HY-P7822
Synonyms:	rHuCerberus 1, cysteine knot superfamily, homolog (Xenopus laevis)/CER1, His; Cerberus; Cerberus-Related Protein; DAN Domain Family Member 4; CER1; DAND4
Species:	Human
Source:	HEK293
Accession:	AAI03977.1 (T18-A267)
Gene ID:	9350
Molecular Weight:	35-42 kDa

PROPERTIES

AA Sequence	T R H Q D G R Q N Q S S L S P V L L P R N Q R E L P T G N H E E A E E K P D L F V A V P H L V G T S P A G E G Q R Q R E K M L S R F G R F W K K P E R E M H P S R D S D S E P F P P G T Q S L I Q P I D G M K M E K S P L R E E A K K F W H H F M F R K T P A S Q G V I L P I K S H E V H W E T C R T V P F S Q T I T H E G C E K L V V Q N N L C F G K C G S V H F P G A A Q H S H T S C S H C L P A K F T T M H L P L N C T E L S S V I K V V M L V E E C Q C K V K T E H E D G H I L H A G S Q D S F I P G V S A
Appearance	Lyophilized powder
Formulation	Lyophilized from a 0.2 μm filtered solution of 20 mM NaAc-HAC, pH 4.5.
Endotoxin Level	<1 EU/μg, determined by LAL method.
Reconsititution	It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH_2O. For long term storage it is recommended to add a carrier protein (0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose).
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	Cerberus 1, DAN family BMP antagonist (CER1), is a cysteine knot superfamily protein homolog and a DAN family BMP antagonist. CER1 has nine conserved cysteines and a cysteine knot region, together with Dan and DRM/Gremlin represent bone morphogenetic protein (BMP) antagonists that can directly bind to BMP and inhibit its activity. Upregulation of CER1 in human ES cells leads to inhibition of Nodal signaling associated with human ES cell differentiation. CER1 (Cerberus 1) and GREM3 (CKTSF1B3 or CER2) inhibit NODAL signaling through ACVR1B (ALK4) or ACVR1C (ALK7) to SMAD2 or SMAD3. The

network formed by the Nodal and BMP signaling pathways and the WNT signaling pathway is related to embryogenesis and carcinogenesis. Although, CER1 inhibits Wnt3a-induced classical Top Flash reporter to some extent, it does not affect Wnt11 signaling in cell culture. Furthermore, CER1 fine-tunes the spatial organization of the ureteral tree by coordinating the activities of the growth-promoting ureteric bud signals Gndf and Wnt11 through Bmp-mediated antagonism and, to some extent, canonical Wnt signaling involved in branching.

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