

Complement Factor D (CFD) Active Protein | CFD active protein

Active Complement Factor D (CFD)

CATALOG # AAA161865	HOST E Coli	APPLICATIONS Activity Assay, Cell Culture
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PRODUCT SYNONYMS

Complement Factor D (CFD); Active Complement Factor D (CFD); Complement Factor D; CF-D; DF; PFD; ADN; Adipsin; Properdin Factor D; C3 convertase activator4; CFD active protein

PRODUCT SPECIFICATIONS

Host	E Coli
Purity/Purification	Greater than 95% by SDS-PAGE
Form/Format	Freeze-dried powder; PBS, pH7.4, containing 0.01% SKL, 1mM DTT, 5% Trehalose and Proclin300.
Sequence	Met1~Ala26 3
Applicable Applications for CFD active protein	Activity Assay, Cell Culture
Species	Rat
Expression System	Prokaryotic expression
Tag	N-terminal His Tag
Endotoxin Level	<1.0EU per 1ug (determined by the LAL method)
Isoelectric Point	6.6
Research Area	Immune molecule
Preparation and Storage	Store at 2-8 degree C for one month, -80 degree C for 12 months

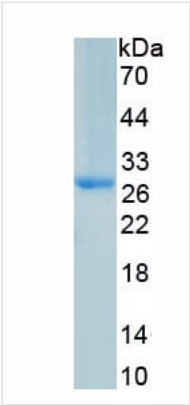
Specific Activity (pmol/min/ug)=
$$\frac{\text{Adjusted } V_{\text{max}}^* \text{ (OD/min)} \times \text{well volume (L)} \times 10^{12} \text{ pmol/mol}}{\text{ext. coeff}^{**} \text{ (M}^{-1}\text{cm}^{-1}) \times \text{path corr.}^{***} \text{ (cm)} \times \text{amount of enzyme (ug)}}$$

*Adjusted for Substrate Blank
**Using the extinction coefficient 13260 M⁻¹cm⁻¹
***Using the path correction 0.320 cm

Bioactivity

Complement Factor D (CFD) is a serine protease that catalyzes the initial proteolytic step in the alternative pathway of complement. Expressed in adipose tissue at high levels, factor D is also known as adipsin. It is an exceptionally specific protease and the only known protein substrate is factor B in complex with C3. Factor D protease activity is regulated by reversible conformational changes, which differs from the majority of serine proteases whose regulation involves either activation by processing of the zymogens or inactivation by binding of the inhibitors. Compared to its physiologically important proteolytic activity, factor D has much lower activity toward synthetic peptide substrates. However, thioester substrates have been routinely used for assessing factor D activity. The full-length (amino acid residues 1-263) of rat CFD was expressed which activity was measured by its ability to cleaves a thioester substrate Z-Lys-SBzl•HCl. The reaction was performed in 50 mM Tris, 1 M NaCl, pH 7.5 (Assay Buffer), initiated by addition 50 uL of various concentrations of CFD (diluted by Assay Buffer) to 50 ul substrate mixture of 0.2mM Z-Lys-SBzl•HCl and 0.2 mM DTNB. The final well serves as a negative control with no CFD, replaced with 50 ul assay buffer. Then read in kinetic mode for 5 minutes at an absorbance of 405 nm. The specific activity of recombinant rat CFD is > 10000 pmol/min/ug.

SDS-PAGE
Figure. SDS-PAGE



ADDITIONAL INFORMATION

Product Categories/Family for CFD active protein	Active proteins
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NCBI AND UNIPROT INFORMATION

NCBI GI #	117647198
NCBI GeneID	54249
NCBI Accession #	NP_001071110.1
NCBI GenBank Nucleotide #	NM_001077642.1
UniProt Accession #	P32038
Molecular Weight	28,442 Da
NCBI Official Full Name	complement factor D
NCBI Official Synonym Full Names	complement factor D
NCBI Official Symbol	Cfd
NCBI Official Synonym Symbols	Df; Adn; EVE
NCBI Protein Information	complement factor D
UniProt Protein Name	Complement factor D
UniProt Gene Name	Cfd
UniProt Synonym Gene Names	Adn; Df

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.