

PDCD8/AIFM1 Protein, Human (His)

Cat. No.:	HY-P7856
Synonyms:	rHuApoptosis-inducing factor 1, mitochondrial/AIFM1, His; Apoptosis-Inducing Factor 1 Mitochondrial; Programmed Cell Death Protein 8; AIFM1; AIF; PDCD8
Species:	Human
Source:	E. coli
Accession:	O95831 (E121-D613)
Gene ID:	9131
Molecular Weight:	Approximately 68.0 kDa

PROPERTIES

AA Sequence

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

Appearance

Lyophilized powder.

Formulation

Lyophilized from a 0.2 µm filtered solution of 20 mM PB, 150 mM NaCl, pH 7.2.

Endotoxin Level

<1 EU/µg, determined by LAL method.

Reconstitution

It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH₂O. 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

PDCD8/AIFM1 protein exhibits dual functionality, serving as both an NADH oxidoreductase and a regulator of apoptosis. In response to apoptotic stimuli, it undergoes translocation from the mitochondrial intermembrane space to the cytosol and nucleus, functioning as a proapoptotic factor through a caspase-independent pathway. This release into the cytoplasm is facilitated by its binding to poly-ADP-ribose chains. The soluble form (AIFsol) found in the nucleus induces 'parthanatos,' characterized by caspase-independent fragmentation of chromosomal DNA. Additionally, PDCD8/AIFM1 interacts with EIF3G, inhibiting the EIF3 machinery and protein synthesis while activating caspase-7 to amplify apoptosis. It plays a critical role in caspase-independent, pyknotic cell death induced by hydrogen peroxide. In normal mitochondrial metabolism, PDCD8/AIFM1 contributes significantly to the regulation of respiratory chain biogenesis by interacting with CHCHD4 and controlling CHCHD4 mitochondrial import. Notably, PDCD8/AIFM1 demonstrates NADH oxidoreductase activity and does not induce nuclear apoptosis.

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

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