TCN1 Protein, Human (P.pastoris, His)

Cat. No.:	HY-P71789
Synonyms:	Haptocorin; Haptocorrin; HC; Transcobalamin 1; Vitamin B12 binding protein; Vitamin B12 binding protein R binder family
Species:	Human
Source:	P. pastoris
Accession:	P20061 (24E-433Y)
Gene ID:	6947
Molecular Weight:	Approximately 47.6 kDa

PROPERTIES

AA Sequence	E I C E V S E E N Y I R L K P L L N T M I Q S N Y N R G T S A V N V V L S L K L V G I Q I Q T L M Q K M I Q Q I K Y N V K S R L S D V S S G E L A L I I L A L G V C R N A E E N L I Y D Y H L I D K L E N K F Q A E I E N M E A H N G T P L T N Y Y Q L S L D V L A L C L F N G N Y S T A E V V N H F T P E N K N Y Y F G S Q F S V D T G A M A V L A L T C V K K S L I N G Q I K A D E G S L K N I S I Y T K S L V E K I L S E K K E N G L I G N T F S T G E A M Q A L F V S S D Y Y N E N D W N C Q Q T L N T V L T E I S Q G A F S N P N A A A Q V L P A L M G K T F L D I N K D S S C V S A S G N F N I S A D E P I T V T P P D S Q S Y I S V N Y S V R I N E T Y F T N V T V L N G S V F L S V M E K A Q K M N D T I F G F T M E E R S W G P Y I T C I Q G L C A N N N D R T Y W E L L S G G E P L S Q G A G S Y V V R N G E N L E V R W S K Y
Appearance	Lyophilized powder.
Formulation	Lyophilized after extensive dialysis against solution in Tris-based buffer, 50% glycerol.
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.
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	TFAM, a key participant in mitochondrial processes, exhibits the ability to bind to the mitochondrial light strand promoter, thereby contributing to the regulation of mitochondrial transcription. As an integral component of the mitochondrial

transcription initiation complex, comprising TFB2M, TFAM, and POLRMT, it plays a crucial role in the basal transcription of mitochondrial DNA. Within this complex, TFAM not only recruits POLRMT to specific promoters but also collaborates with TFB2M to induce structural changes in POLRMT, facilitating promoter opening and trapping of the DNA non-template strand. Essential for accurate promoter recognition by mitochondrial RNA polymerase, TFAM promotes transcription initiation from select promoters. Additionally, TFAM showcases DNA-unwinding capabilities and imparts a U-turn shape to the mitochondrial light strand promoter DNA through its HMG boxes. Beyond its transcriptional functions, TFAM is vital for maintaining normal mitochondrial DNA levels and may play a role in organizing and compacting both mitochondrial and nuclear DNA, particularly during spermatogenesis.

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