

TFAM Protein, Human (His)

Cat. No.:	HY-P701317
Synonyms:	Transcription factor A, mitochondrial; mtTFA; Testis-specific high mobility group protein (TS-HMG); Hmgts
Species:	Human
Source:	E. coli
Accession:	Q00059 (S43-C246)
Gene ID:	7019
Molecular Weight:	30 kDa

PROPERTIES

Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.22 μ m filtered solution of 100 mM Tris-HCl, 10 mM Sodium citrate, 2 M NaCl, 6% Trehalose, pH 8.0.
Endotoxin Level	<1 EU/ μ g, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 μ g/mL in ddH ₂ O.
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 protein is involved in the regulation of lymphangiogenesis and interacts with TEK/TIE2 and ITGA5. It binds to the mitochondrial light strand promoter and plays a role in mitochondrial transcription regulation. TFAM is a component of the mitochondrial transcription initiation complex, along with TFB2M and POLRMT, and is required for basal transcription of mitochondrial DNA. TFAM recruits POLRMT to specific promoters and induces structural changes in POLRMT for promoter opening and DNA non-template strand trapping. It is necessary for accurate promoter recognition by the mitochondrial RNA polymerase and promotes transcription initiation. TFAM can unwind DNA and bends the mitochondrial light strand promoter DNA into a U-turn shape through its HMG boxes. It is essential for maintaining normal levels of mitochondrial DNA and may also play a role in organizing and compacting mitochondrial DNA. TFAM can bind DNA as a monomer and can form homodimers. It forms a complex with FOXO3, SIRT3, and POLRMT under metabolic stress and interacts with TFB1M, TFB2M, and CLPX, enhancing DNA-binding.
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Caution: Product has not been fully validated for medical applications. For research use only.

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