

**Anti-mtTFA Picoband Antibody**  
**Catalog # ABO12136****Specification**

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**Anti-mtTFA Picoband Antibody - Product Information**

Application	WB, IHC-P
Primary Accession	<a href="#">Q00059</a>
Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Format	Lyophilized

**Description**

Rabbit IgG polyclonal antibody for Transcription factor A, mitochondrial(TFAM) detection. Tested with WB, IHC-P in Human;Mouse;Rat.

**Reconstitution**

Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

**Anti-mtTFA Picoband Antibody - Additional Information**

**Gene ID** 7019

**Other Names**

Transcription factor A, mitochondrial, mtTFA, Mitochondrial transcription factor 1, MtTF1, Transcription factor 6, TCF-6, Transcription factor 6-like 2, TFAM, TCF6, TCF6L2

**Calculated MW**

29097 MW KDa

**Application Details**

Immunohistochemistry(Paraffin-embedded Section), 0.5-1 µg/ml, Human, By Heat<br><br>Western blot, 0.1-0.5 µg/ml, Human, Mouse, Rat<br><br>

**Subcellular Localization**

Mitochondrion. Mitochondrion matrix, mitochondrion nucleoid.

**Protein Name**

Transcription factor A, mitochondrial

**Contents**

Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na<sub>2</sub>HPO<sub>4</sub>, 0.05mg NaN<sub>3</sub>.

**Immunogen**

A synthetic peptide corresponding to a sequence at the N-terminus of human mtTFA (214-241aa EMKSWEEQMIEVGRKDLLRRTIKKQRKY), different from the related mouse and rat sequences by five amino acids.

**Purification**

Immunogen affinity purified.

**Cross Reactivity**

No cross reactivity with other proteins

**Storage**

**At -20°C for one year. After reconstitution, at 4°C for one month. It can also be aliquotted and stored frozen at -20°C for a longer time. Avoid repeated freezing and thawing.**

**Anti-mtTFA Picoband Antibody - Protein Information**

**Name** TFAM ([HGNC:11741](#))

**Synonyms** TCF6, TCF6L2

**Function**

Binds to the mitochondrial light strand promoter and functions in mitochondrial transcription regulation (PubMed: [29445193](http://www.uniprot.org/citations/29445193), PubMed: [32183942](http://www.uniprot.org/citations/32183942)). Component of the mitochondrial transcription initiation complex, composed at least of TFB2M, TFAM and POLRMT that is required for basal transcription of mitochondrial DNA (PubMed: [29149603](http://www.uniprot.org/citations/29149603)). In this complex, TFAM recruits POLRMT to a specific promoter whereas TFB2M induces structural changes in POLRMT to enable promoter opening and trapping of the DNA non-template strand (PubMed: [20410300](http://www.uniprot.org/citations/20410300)). Required for accurate and efficient promoter recognition by the mitochondrial RNA polymerase (PubMed: [22037172](http://www.uniprot.org/citations/22037172)). Promotes transcription initiation from the HSP1 and the light strand promoter by binding immediately upstream of transcriptional start sites (PubMed: [22037172](http://www.uniprot.org/citations/22037172)). Is able to unwind DNA (PubMed: [22037172](http://www.uniprot.org/citations/22037172)). Bends the mitochondrial light strand promoter DNA into a U-turn shape via its HMG boxes (PubMed: [1737790](http://www.uniprot.org/citations/1737790)). Required for maintenance of normal levels of mitochondrial DNA (PubMed: [19304746](http://www.uniprot.org/citations/19304746), PubMed: [22841477](http://www.uniprot.org/citations/22841477)). May play a role in organizing and compacting mitochondrial DNA (PubMed: [22037171](http://www.uniprot.org/citations/22037171)).

**Cellular Location**

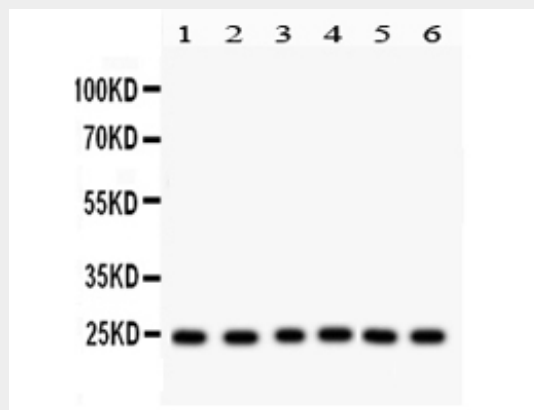
Mitochondrion. Mitochondrion matrix, mitochondrion nucleoid

**Anti-mtTFA Picoband Antibody - Protocols**

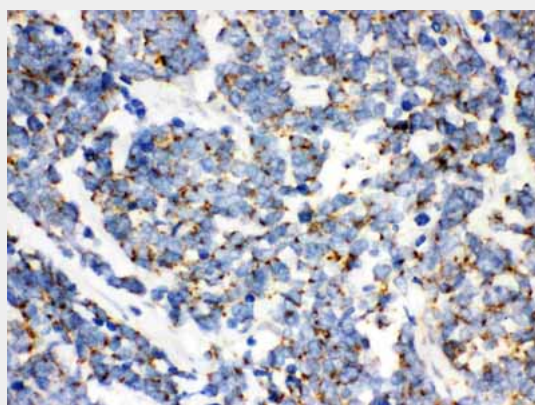
Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

## Anti-mtTFA Picoband Antibody - Images



Anti- mtTFA Picoband antibody, ABO12136, Western blotting All lanes: Anti mtTFA (ABO12136) at 0.5ug/ml  
Lane 1: Rat Brain Tissue Lysate at 50ug  
Lane 2: Human Placenta Tissue Lysate at 50ug  
Lane 3: HEPA Whole Cell Lysate at 40ug  
Lane 4: HELA Whole Cell Lysate at 40ug  
Lane 5: HEPG2 Whole Cell Lysate at 40ug  
Lane 6: COLO320 Whole Cell Lysate at 40ug  
Predicted bind size: 24KD  
Observed bind size: 24KD



Anti- mtTFA Picoband antibody, ABO12136, IHC(P) IHC(P): Human Lung Cancer Tissue

## Anti-mtTFA Picoband Antibody - Background

TFAM (Transcription factor A, mitochondrial), also known as TCF6 or TCF6L2, is a 162-amino acid protein that activates transcription of each mitochondrial DNA (mtDNA) strand by binding to an element of approximately 30 nucleotides present in both the light-strand and the heavy-strand promoters. By Southern blot analysis of restriction enzyme digests of human/Chinese hamster somatic cell hybrid lines, Milatovich et al. (1992) mapped TFAM sequences, which they called MTTF1, to 3 different chromosomes: chromosomes 10, 7p, and 11q. By PCR-based screening of a somatic cell hybrid panel and by fluorescence in situ hybridization, Scott (2007) stated that the sequences mapped to chromosomes 7p (TCF6L1) and 11q (MTTF1, or TCF6L3) are pseudogenes. Larsson et al. (1997) mapped the mouse mitochondrial transcription factor A gene (Tfam) to the central part of mouse chromosome 10. This region exhibits syntenic homology with human 10q21. Mitochondrial transcription factor A is a key activator of mitochondrial transcription in mammals. It also has a role in mitochondrial DNA replication, since transcription generates an RNA primer necessary for initiation of mtDNA replication.