10320 Camino Santa Fe, Suite G
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Anti-mtTFA Antibody
Catalog # ABO11239

Specification

Anti-mtTFA Antibody - Product Information

Application	**WB, IHC-P, IHC-F, ICC**
Primary Accession	Q00059
Host	**Rabbit**
Reactivity	**Human**
Clonality	**Polyclonal**
Format	**Lyophilized**

Description
Rabbit IgG polyclonal antibody for Transcription factor A, mitochondrial(TFAM) detection. Tested with WB, IHC-P, IHC-F, ICC in Human.

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

Anti-mtTFA 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

Immunocytochemistry , 0.5-1 µg/ml, Human, -
Immunohistochemistry(Frozen Section), 0.5-1 µg/ml, Human, -
Western blot, 0.1-0.5 µg/ml, Human

Subcellular Localization
Mitochondrion. Mitochondrion matrix, mitochondrion nucleoid.

Protein Name
Transcription factor A, mitochondrial

Contents
Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg Thimerosal, 0.05mg NaN3.

Immunogen
A synthetic peptide corresponding to a sequence at the C-terminus of human mtTFA(227-246aa RKDLLRRTIKKQRKYGAEEC).

Purification
Immunogen affinity purified.

Cross Reactivity
No cross reactivity with other proteins

Storage	**At -20˚C for one year. After r˚Constitution, 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 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, PubMed: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). 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). Required for accurate and efficient promoter recognition by the mitochondrial RNA polymerase (PubMed:22037172). Promotes transcription initiation from the HSP1 and the light strand promoter by binding immediately upstream of transcriptional start sites (PubMed:22037172). Is able to unwind DNA (PubMed:22037172). Bends the mitochondrial light strand promoter DNA into a U-turn shape via its HMG boxes (PubMed:1737790). Required for maintenance of normal levels of mitochondrial DNA (PubMed:19304746, PubMed:22841477). May play a role in organizing and compacting mitochondrial DNA (PubMed:22037171).

Cellular Location
Mitochondrion. Mitochondrion matrix, mitochondrion nucleoid

Anti-mtTFA 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 Cytomety
- Cell Culture

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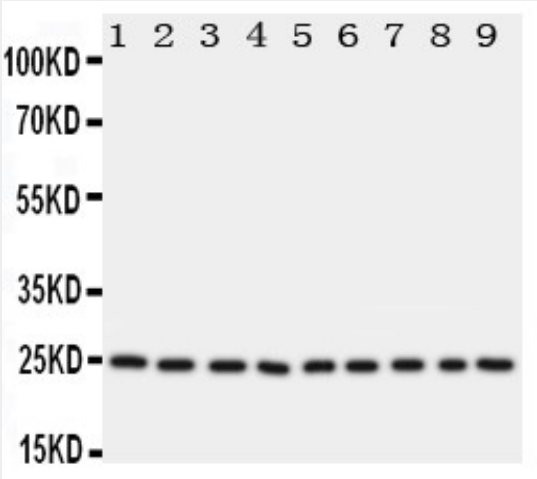
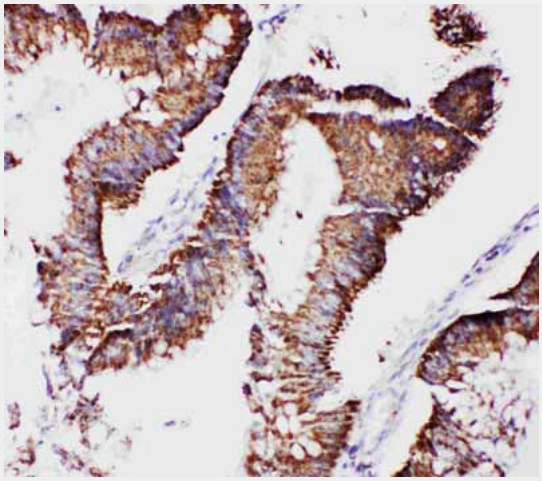
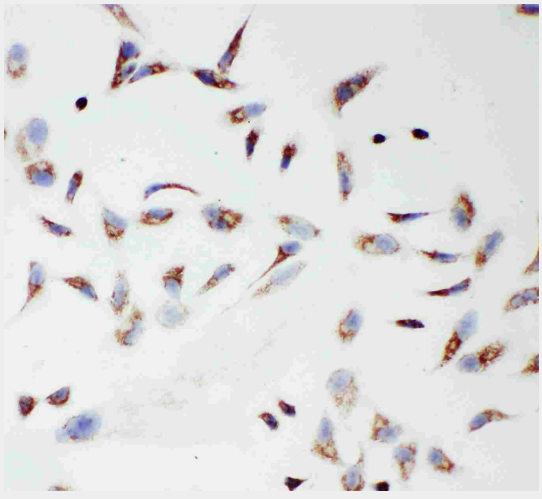
Anti-mtTFA Antibody - Images



Anti-mtTFA antibody, ABO11239, Western blottingLane 1: HELA Cell LysateLane 2: JURKAT Cell LysateLane 3: 293T Cell LysateLane 4: Rabbit igG(55kD)Lane 5: A431 Cell LysateLane 6: RAJI Cell LysateLane 7: CEM Cell LysateLane 8: HL-60 Cell LysateLane 9: HUT Cell Lysate



Anti-mtTFA antibody, ABO11239, IHC(P)IHC(P): Human Intestinal Cancer Tissue



Anti-mtTFA antibody, ABO11239, ICCICC: HELA Cell

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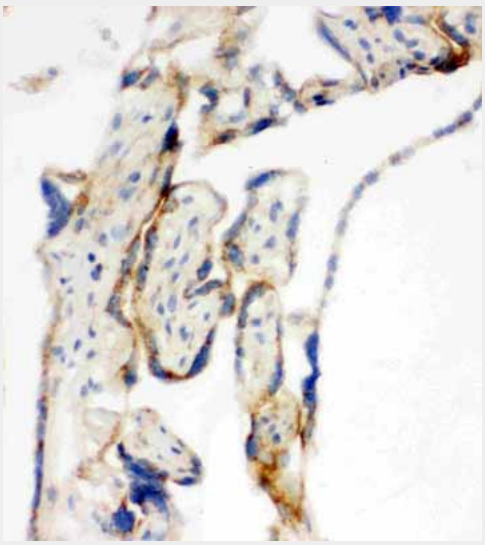

Anti-mtTFA antibody, ABO11239, IHC(F)IHC(F): Human Placenta Tissue

Anti-mtTFA 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.