10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

TBP Antibody (Center)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP6680c

Product Information

Application	IHC-P, FC, IF, WB, E
Primary Accession	P20226
Other Accession	P27633, P29037, Q4R4F5, Q7SXL3, O13270, Q2HJ52, Q5UE94, Q6SJ96, Q1JPY4
Reactivity	Human, Mouse
Predicted	Zebrafish, Xenopus, Bovine, Chicken, Monkey, Mouse, Rat, Canine, Rabbit
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	37698
Antigen Region	210-239

Additional Information

Gene ID	6908
Other Names	TATA-box-binding protein, TATA sequence-binding protein, TATA-binding factor, TATA-box factor, Transcription initiation factor TFIID TBP subunit, TBP, GTF2D1, TF2D, TFIID
Target/Specificity	This TBP antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 210-239 amino acids from the Central region of human TBP.
Dilution	IHC-P~~1:100~500 FC~~1:10~50 IF~~1:10~50 WB~~1:1000 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	TBP Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	TBP
Synonyms	GTF2D1, TF2D, TFIID {ECO:0000303|PubMed:

Function	The TFIID basal transcription factor complex plays a major role in the initiation of RNA polymerase II (Pol II)-dependent transcription (PubMed:33795473). TFIID recognizes and binds promoters with or without a TATA box via its subunit TBP, a TATA-box-binding protein, and promotes assembly of the pre-initiation complex (PIC) (PubMed:2194289, PubMed:2363050, PubMed:2374612, PubMed:27193682, PubMed:33795473). The TFIID complex consists of TBP and TBP-associated factors (TAFs), including TAF1, TAF2, TAF3, TAF4, TAF5, TAF6, TAF7, TAF8, TAF9, TAF10, TAF11, TAF12 and TAF13 (PubMed:27007846, PubMed:33795473). The TFIID complex structure can be divided into 3 modules TFIID-A, TFIID-B, and TFIID-C (PubMed:33795473). TBP forms the TFIID-A module together with TAF3 and TAF5 (PubMed:33795473). TBP is a general transcription factor that functions at the core of the TFIID complex (PubMed:2194289, PubMed:2363050, PubMed:2374612, PubMed:27193682, PubMed:33795473, PubMed:9836642). During assembly of the core PIC on the promoter, as part of TFIID, TBP binds to and also bends promoter DNA, irrespective of whether the promoter contains a TATA box (PubMed:33795473). Component of a BRF2-containing transcription factor complex that regulates transcription mediated by RNA polymerase III (PubMed:26638071). Component of the transcription factor SL1/TIF-IB complex, which is involved in the assembly of the PIC during RNA polymerase I-dependent transcription (PubMed:15970593). The rate of PIC formation probably is primarily dependent on the rate of association of SL1 with the rDNA promoter (PubMed:15970593). SL1 is involved in stabilization of nucleolar transcription factor 1/UBTF on rDNA (PubMed:15970593).
Cellular Location	Nucleus.
Tissue Location	Widely expressed, with levels highest in the testis and ovary.

Background

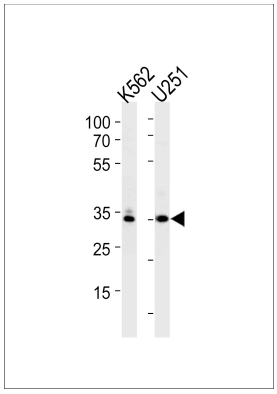
Initiation of transcription by RNA polymerase II requires the activities of more than 70 polypeptides. The protein that coordinates these activities is transcription factor IID (TFIID), which binds to the core promoter to position the polymerase properly, serves as the scaffold for assembly of the remainder of the transcription complex, and acts as a channel for regulatory signals. TFIID is composed of the TATA-binding protein (TBP) and a group of evolutionarily conserved proteins known as TBP-associated factors or TAFs. TAFs may participate in basal transcription, serve as coactivators, function in promoter recognition or modify general transcription factors (GTFs) to facilitate complex assembly and transcription initiation. A distinctive feature of TBP is a long string of glutamines in the N-terminal. This region of the protein modulates the DNA binding activity of the C terminus, and modulation of DNA binding affects the rate of transcription complex formation and initiation of transcription. Mutations that expand the number of CAG repeats encoding this polyglutamine tract, and thus increase the length of the polyglutamine string, are associated with spinocerebellar ataxia 17, a neurodegenerative disorder classified as a polyglutamine disease.

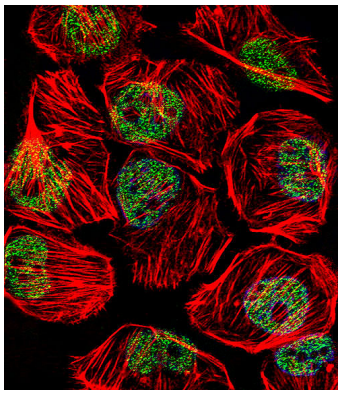
References

Ohi,K., Genes Brain Behav. 8 (4), 473-480 (2009)
Reid,S.J., Brain Res. 1268, 190-199 (2009)

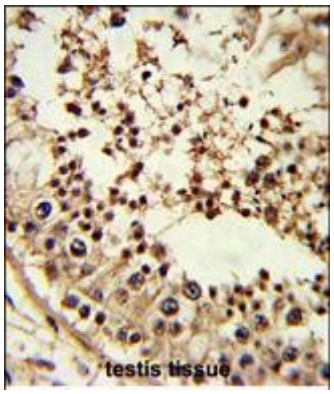
Images

TBP Antibody (Center) (Cat. #AP6680c) western blot analysis in K562,U251 cell line lysates (35ug/lane).This demonstrates the TBP antibody detected the TBP protein (arrow).

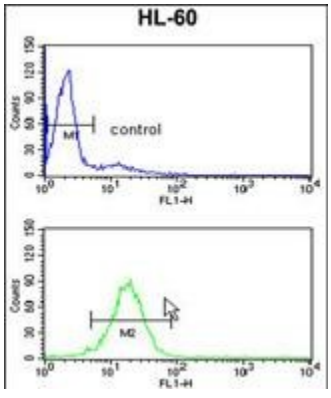




Fluorescent confocal image of U251 cell stained with TBP Antibody(Center)(Cat#AP6680c).U251 cells were fixed with 4% PFA (20 min), permeabilized with Triton X-100 (0.1%, 10 min), then incubated with TBP primary antibody (1:25, 1 h at 37℃). For secondary antibody, Alexa Fluor® 488 conjugated donkey anti-rabbit antibody (green) was used (1:400, 50 min at 37℃).Cytoplasmic actin was counterstained with Alexa Fluor® 555 (red) conjugated Phalloidin (7units/ml, 1 h at 37℃). Nuclei were counterstained with DAPI (blue) (10 µg/ml, 10 min).TBP immunoreactivity is localized to Nucleus significantly.



Formalin-fixed and paraffin-embedded human testis tissue reacted with TBP Antibody (Center), which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated.



TBP Antibody (Center) (Cat. #AP6680c) flow cytometry analysis of HL-60 cells (bottom histogram) compared to a negative control cell (top histogram).FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.