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ATF2 Antibody (Center T339)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP16866c

Product Information

Application	WB, E
Primary Accession	P15336
Other Accession	NP_001871.2
Reactivity	Human, Mouse
Predicted	Rat, Bovine, Canine, Rabbit
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	54537
Antigen Region	318-347

Additional Information

Gene ID	1386
Other Names	Cyclic AMP-dependent transcription factor ATF-2, cAMP-dependent transcription factor ATF-2, Activating transcription factor 2, Cyclic AMP-responsive element-binding protein 2, CREB-2, cAMP-responsive element-binding protein 2, HB16, Histone acetyltransferase ATF2, cAMP response element-binding protein CRE-BP1, ATF2, CREB2, CREBP1
Target/Specificity	This ATF2 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 318-347 amino acids from the Central region of human ATF2.
Dilution	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 purified through a protein A column, followed by peptide affinity purification.
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	ATF2 Antibody (Center T339) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	ATF2

Synonyms	CREB2, CREBP1
Function	Transcriptional activator which regulates the transcription of various genes, including those involved in anti-apoptosis, cell growth, and DNA damage response (PubMed:11932306, PubMed:15105425, PubMed:15916964, PubMed:22304920, PubMed:2529117). Dependent on its binding partner, binds to CRE (cAMP response element) consensus sequences (5'-TGACGTCA-3') or to AP-1 (activator protein 1) consensus sequences (5'-TGACTCA-3') (PubMed:11932306, PubMed:2529117). In the nucleus, contributes to global transcription and the DNA damage response, in addition to specific transcriptional activities that are related to cell development, proliferation and death (PubMed:22304920). In liver, acts as a regulator of glucose metabolism downstream of OR5V1 signaling, which promotes ATF2 activation, leading to expression of carnitine palmitoyltransferase CPT1A (By similarity). In the cytoplasm, interacts with and perturbs HK1- and VDAC1-containing complexes at the mitochondrial outer membrane, thereby impairing mitochondrial membrane potential, inducing mitochondrial leakage and promoting cell death (PubMed:22304920). The phosphorylated form (mediated by ATM) plays a role in the DNA damage response and is involved in the ionizing radiation (IR)-induced S phase checkpoint control and in the recruitment of the MRN complex into the IR-induced foci (IRIF) (PubMed:15916964). In concert with CUL3 and RBX1, promotes the degradation of KAT5 thereby attenuating its ability to acetylate and activate ATM (PubMed:18397884). Can elicit oncogenic or tumor suppressor activities depending on the tissue or cell type (PubMed:18677098).
Cellular Location	Nucleus. Cytoplasm Mitochondrion outer membrane Note=Shuttles between the cytoplasm and the nucleus and heterodimerization with JUN is essential for the nuclear localization (PubMed:22275354). Localization to the cytoplasm is observed under conditions of cellular stress and in disease states (PubMed:22304920) Localizes at the mitochondrial outer membrane in response to genotoxic stress (PubMed:22304920). Phosphorylation at Thr-52 is required for its nuclear localization and negatively regulates its mitochondrial localization (PubMed:22304920). Co-localizes with the MRN complex in the IR-induced foci (IRIF) (PubMed:15916964)
Tissue Location	Ubiquitously expressed, with more abundant expression in the brain.

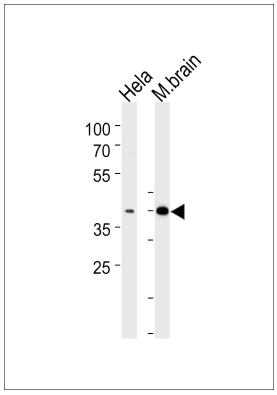
Background

This gene encodes a transcription factor that is a member of the leucine zipper family of DNA binding proteins. This protein binds to the cAMP-responsive element (CRE), an octameric palindrome. The protein forms a homodimer or heterodimer with c-Jun and stimulates CRE-dependent transcription. The protein is also a histone acetyltransferase (HAT) that specifically acetylates histones H2B and H4 in vitro; thus it may represent a class of sequence-specific factors that activate transcription by direct effects on chromatin components. Additional transcript variants have been identified but their biological validity has not been determined.

References

Bailey, S.D., et al. Diabetes Care 33(10):2250-2253(2010)
Carrillo, R.J., et al. Biophys. Chem. 151(3):149-154(2010)
Lee, S.H., et al. Oncogene 29(37):5182-5192(2010)
Salameh, A., et al. J. Biol. Chem. 285(30):23096-23104(2010)
Bolat, I., et al. Folia Histochem. Cytobiol. 48(2):197-201(2010)

Images



ATF2 Antibody (pT339) (Cat. #AP16866c) western blot analysis in Hela cell line and mouse brain tissue lysates (35ug/lane).This demonstrates the ATF2 antibody detected the ATF2 protein (arrow).

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