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ATF2 Antibody
Purified Mouse Monoclonal Antibody
Catalog # AO1516a

Specification

ATF2 Antibody - Product Information

Application	**E, WB, IHC**
Primary Accession	P15336
Reactivity	**Human, Mouse**
Host	**Mouse**
Clonality	**Monoclonal**
Isotype	**IgG1**
Calculated MW	**55kDa KDa**

Description
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.Tissue specificity: Abundant expression seen in the brain.

Immunogen
Purified recombinant fragment of human ATF2 expressed in E. Coli.

Formulation
Ascitic fluid containing 0.03% sodium azide.

ATF2 Antibody - Additional Information

Gene ID 1386

Other Names
Cyclic AMP-dependent transcription factor ATF-2, cAMP-dependent transcription factor ATF-2, 2.3.1.48, 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

Dilution
E~~1/10000
WB~~1/500 - 1/2000
IHC~~1/500 - 1/2000

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions

ATF2 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

ATF2 Antibody - 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. 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'). 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. 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. 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). Exhibits histone acetyltransferase (HAT) activity which specifically acetylates histones H2B and H4 in vitro (PubMed:10821277). In concert with CUL3 and RBX1, promotes the degradation of KAT5 thereby attenuating its ability to acetylate and activate ATM. Can elicit oncogenic or tumor suppressor activities depending on the tissue or cell type.

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 Localization to the cytoplasm is observed under conditions of cellular stress and in disease states. Localizes at the mitochondrial outer membrane in response to genotoxic stress. Phosphorylation at Thr-52 is required for its nuclear localization and negatively regulates its mitochondrial localization. Co-localizes with the MRN complex in the IR-induced foci (IRIF)

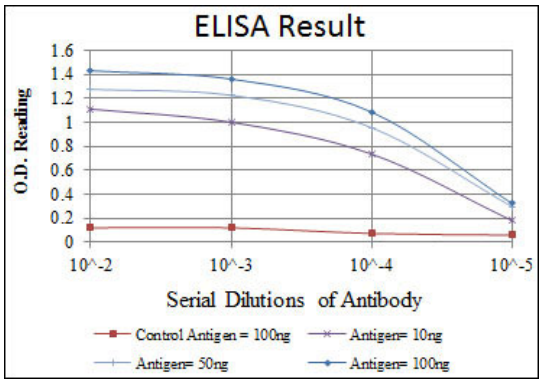
Tissue Location
Ubiquitously expressed, with more abundant expression in the brain

ATF2 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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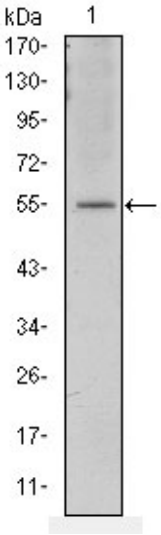


Figure 1: Western blot analysis using ATF2 mouse mAb against NIH/3T3 cell lysate.

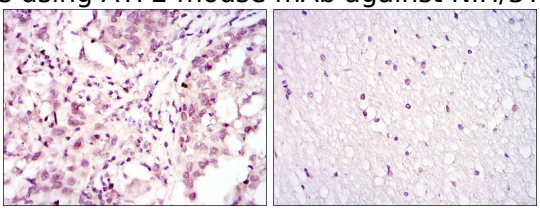


Figure 2: Immunohistochemical analysis of paraffin-embedded lung cancer (left) and brain tissues (right) using ATF2 mouse mAb with DAB staining.

ATF2 Antibody - References

1. J Dermatol Sci. 2008 Sep;51(3):210-5. 2. J Biol Chem. 2008 Jun 20;283(25):17605-14.