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

Anti-ATF2 (Phospho-S62) Antibody

Catalog # AP60538

Product Information

Application	WB, IHC, IP
Primary Accession	P15336
Reactivity	Human, Mouse, Rat, Chicken
Host	Rabbit
Clonality	Polyclonal
Calculated MW	54537

Additional Information

Gene ID	1386
Other Names	CREB2; CREBP1; 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
Target/Specificity	KLH-conjugated synthetic phosphopeptide corresponding to residues surrounding S62 of human ATF2 protein. The exact sequence is proprietary.
Dilution	WB~~WB (1/500 - 1/1000), IHC (1/100 - 1/200), IP (1/10 - 1/100) IHC~~WB (1/500 - 1/1000), IHC (1/100 - 1/200), IP (1/10 - 1/100) IP~~N/A
Format	Liquid in 0.42% Potassium phosphate, 0.87% Sodium chloride, pH 7.3, 30% glycerol, and 0.01% sodium azide.
Storage	Store at -20 °C.Stable for 12 months from date of receipt

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).

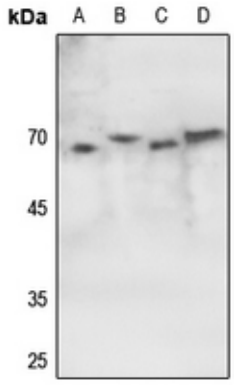
Cellular Location

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)

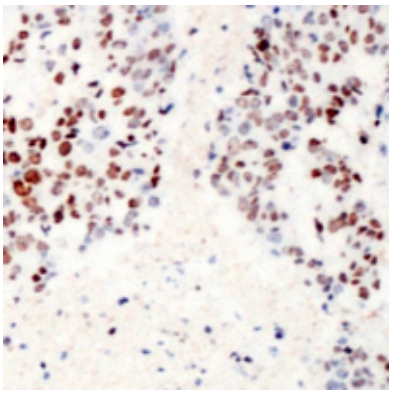
Tissue Location

Ubiquitously expressed, with more abundant expression in the brain.

Images

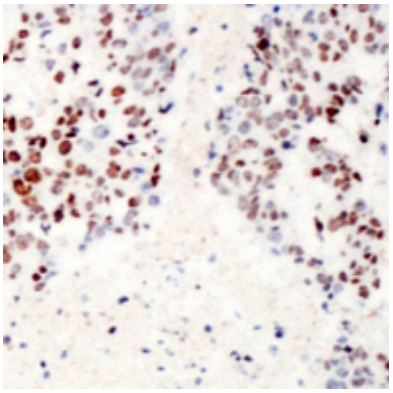


Western blot analysis of ATF2 (Phospho-S62) expression in mouse brain (A), mouse liver (B), rat brain (C), rat liver (D) whole cell lysates. (Predicted band size: 54 kD; Observed band size: 70 kD)



Immunohistochemical analysis of ATF2 (Phospho-S62) staining in human prostate cancer formalin fixed paraffin embedded tissue section. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0). The section was then incubated with the antibody at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.

Immunohistochemical analysis of ATF2 (pS62) staining in human prostate cancer formalin fixed paraffin embedded tissue section. The section was pre-treated using heat



mediated antigen retrieval with sodium citrate buffer (pH 6.0). The section was then incubated with the antibody at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.

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