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Product Information

ANTI-ATF2 (SS-16)

Developed in Rabbit
Affinity Isolated Antibody

Product Number **A 4086**

Product Description

Anti-ATF2 (SS-16) is developed in rabbits using a synthetic peptide corresponding to amino acids 490-505 of human ATF2 with an N-terminal lysine added, conjugated to KLH. This sequence differs by one amino acid from the corresponding rat and mouse sequences. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-ATF2 specifically recognizes human ATF2 by immunoblotting (65 kDa) and immunoprecipitation. Staining of ATF2 by immunoblotting is inhibited by the immunizing peptide.

ATF2 (Activating Transcription Factor 2, CRE-BP, HB-16, CREB2, TREB-7) is a member of the ATF/CREB family of basic region leucine zipper DNA-binding proteins that regulates transcription by binding to a consensus cAMP response element (CRE) in the promoter of various viral and cellular genes.¹⁻⁴ Many of these genes are important in cell growth and differentiation, and in stress and immune responses. ATF2 is a nuclear protein that binds DNA as a dimer and can form dimers with members of the ATF/CREB and Jun/Fos families. It is a stronger activator as a heterodimer with c-Jun than as a homodimer.

Several isoforms of ATF2 arise by differential splicing. The stable native full-length ATF2 is transcriptionally inactive as a result of an inhibitory direct intramolecular interaction of its carboxy-terminal DNA-binding domain with the amino-terminal transactivation domain.^{1,2} Following dimerization ATF2 becomes a short-lived protein that undergoes ubiquitination and proteolysis, seemingly in a protein phosphatase-dependent mechanism.⁵

Stimulation of the transcriptional activity of ATF2 occurs following cellular stress induced by several genotoxic agents, inflammatory cytokines, and UV irradiation.⁶ This activation requires phosphorylation of two threonine residues in ATF2 by both JNK/SAP kinase and p38 MAP kinase.⁶⁻⁸ ATF2 is abundantly expressed in brain.

Reagents

Anti-ATF2 (SS-16) is supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 1% bovine serum albumin (BSA) and 15 mM sodium azide.

Precautions and Disclaimer

Due to the sodium azide content, a material safety data sheet (MSDS) for this product has been sent to the attention of the safety officer of your institution. Consult the MSDS for information regarding hazardous and safe handling practices.

Storage/Stability

For continuous use, store at 2-8 °C for up to one month. For prolonged storage, freeze in working aliquots at -20 °C. Repeated freezing and thawing is not recommended. Storage in "frost-free" freezers is also not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilution samples should be discarded if not used within 12 hours.

Product Profile

By immunoblotting, a minimum working antibody dilution of 1:250 is recommended using a whole extract of human K562 chronic myelogenous leukemia cells or Jurkat acute T cell leukemia cells, and a chemiluminescent detection reagent.

By immunoprecipitation, 2.5 to 5 µg of the antibody immunoprecipitates ATF2 using a RIPA lysate of 2.5X10⁶ human K562 chronic myelogenous leukemia cells.

Note: In order to obtain the best results in various techniques and preparations, we recommend determining optimal working dilutions by titration.

References

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