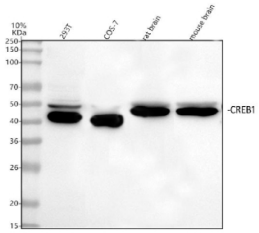
CREB1 Antibody / cAMP response element-binding protein 1 (FY12842)

Catalog No.	Formulation	Size
FY12842	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

Availability	1-2 days
Species Reactivity	Human, Monkey, Mouse, Rat
Format	Lyophilized
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	P16220
Applications	Western Blot : 0.25-0.5ug/ml ELISA : 0.1-0.5ug/ml
Limitations	This CREB1 antibody is available for research use only.



Western blot analysis of CREB1 using anti-CREB1 antibody. Lane 1: human 293T whole cell lysates, Lane 2: monkey COS-7 whole cell lysates, Lane 3: rat brain tissue lysates, Lane 4: mouse brain tissue lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-CREB1 antibody at 0.5 ug/ml overnight at 4oC, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal was developed using enhanced chemiluminescent. CREB1 western blot of human, monkey, and rodent samples shows a characteristic doublet: a lower band near ~43-45 kDa and an upper band at ~48-50 kDa. The upper species corresponds to post-translationally modified (phosphorylated) CREB1, which commonly runs above its predicted ~37 kDa.

Description

CREB1 antibody detects cAMP response element-binding protein 1, a nuclear transcription factor that regulates gene expression in response to cAMP, calcium, and growth factor signaling. Encoded by the CREB1 gene on chromosome 2q34, this protein belongs to the CREB/ATF family of transcription factors and is a master regulator of cellular

proliferation, metabolism, and neuronal plasticity. CREB1 binds to the cAMP response element (CRE) in DNA, recruiting transcriptional coactivators such as CBP and p300 to stimulate RNA polymerase II-mediated transcription.

Structurally, CREB1 contains an N-terminal kinase-inducible domain (KID) that undergoes phosphorylation at Ser133 upon activation by protein kinase A (PKA), calcium/calmodulin-dependent protein kinases (CaMKs), or MAPK pathways. This modification enables high-affinity binding to CBP/p300 and transcriptional activation of CRE-dependent genes involved in survival, learning, and glucose homeostasis. The C-terminal basic leucine zipper (bZIP) domain mediates DNA binding and dimerization with other CREB/ATF proteins.

The CREB1 antibody is widely used in signal transduction, neuroscience, and endocrinology research to study gene expression control, synaptic plasticity, and second messenger signaling. Western blot analysis detects a 43 kilodalton band corresponding to CREB1, while immunofluorescence reveals nuclear localization with enrichment at transcriptionally active chromatin. This antibody is also effective for assessing phosphorylation-dependent activation in response to hormones, neurotransmitters, and stress stimuli.

CREB1 activity is crucial for long-term memory formation, neuronal survival, and metabolic regulation. Dysregulation of CREB1 signaling contributes to neurological disorders, depression, diabetes, and tumorigenesis. In cancers, persistent CREB1 activation promotes proliferation and angiogenesis through induction of pro-survival genes such as BCL2 and VEGF. The CREB1 antibody provides a versatile reagent for dissecting transcriptional networks downstream of cAMP and growth factor pathways. NSJ Bioreagents validates this antibody for its applications, ensuring reliable detection for research into transcriptional and signaling regulation.

Application Notes

Optimal dilution of the CREB1 antibody should be determined by the researcher.

Immunogen

E.coli-derived human CREB1 recombinant protein (Position: A7-R270) was used as the immunogen for the CREB1 antibody.

Storage

After reconstitution, the CREB1 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.