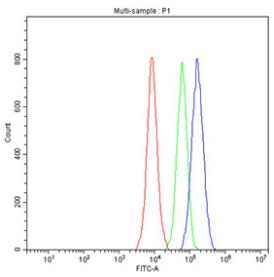
CREB Antibody (R31525)

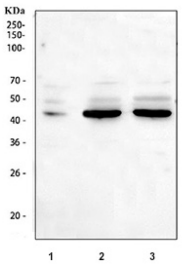
Catalog No.	Formulation	Size
R31525	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

Availability	1-3 business days
Species Reactivity	Human, Mouse, Rat
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Antigen affinity
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	P16220
Applications	Western Blot : 0.5-1ug/ml Flow Cytometry : 1-3ug/million cels
Limitations	This CREB antibody is available for research use only.



Flow cytometry testing of fixed and permeabilized human 293T cells with CREB antibody at 1ug/million cells (blocked with goat sera); Red=cells alone, Green=isotype control, Blue= CREB antibody.



Western blot testing of 1) human 293T, 2) rat brain and 3) mouse brain tissue lysate with CREB antibody. Predicted molecular weight is 37 kDa but routinely observed at ~43 kDa.

Description

CREB antibody is a widely used reagent for investigating transcriptional regulation, neuronal signaling, and cellular adaptation. The encoded protein, cAMP response element-binding protein (CREB), is a nuclear transcription factor that binds to cAMP response elements (CRE) within promoter regions of target genes. CREB is activated primarily through phosphorylation at Ser133 by kinases such as PKA, CaMKIV, and MAPK-activated kinases. Once activated, CREB recruits transcriptional coactivators, including CBP and p300, leading to the induction of genes involved in survival, metabolism, plasticity, and growth.

CREB plays a central role in neuronal function and development. In the nervous system, CREB regulates genes critical for long-term potentiation, synaptic plasticity, and memory formation. Its activation supports neurogenesis and survival of neurons, making it a fundamental factor in learning and adaptation. Dysregulated CREB signaling has been implicated in neurological and psychiatric conditions, including Alzheimer disease, depression, and addiction, where improper transcriptional responses impair neuronal function.

Beyond the nervous system, CREB influences processes in multiple tissues. It regulates gluconeogenic genes in the liver, modulates adipocyte differentiation, and contributes to immune cell function by controlling cytokine gene expression. Because of this wide regulatory scope, CREB serves as a signaling hub that integrates hormonal, stress, and growth factor cues into coordinated transcriptional programs.

Research has also highlighted the role of CREB in cancer biology. Constitutive activation of CREB has been linked to tumor progression, angiogenesis, and resistance to apoptosis. Overexpression or hyperphosphorylation of CREB has been observed in cancers such as acute myeloid leukemia, non-small cell lung carcinoma, and breast cancer. These findings make CREB not only a critical transcription factor for physiology but also a potential biomarker and therapeutic target in oncology.

The CREB antibody is applied in western blotting, immunohistochemistry, immunofluorescence, and flow cytometry to assess expression levels, phosphorylation states, and nuclear localization. These applications are essential for mapping CREB activity in neurons, metabolic tissues, and cancer models. For researchers investigating transcriptional regulation, signal transduction, or disease pathogenesis, the CREB antibody provides a reliable and specific detection tool. NSJ Bioreagents supplies validated antibodies that deliver accuracy and reproducibility for advanced molecular research.

Application Notes

The stated application concentrations are suggested starting points. Titration of the CREB antibody may be required due to differences in protocols and secondary/substrate sensitivity.

Immunogen

Human partial recombinant protein (AA 1-177) was used as the immunogen for this CREB antibody.

Storage

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