Creb [pS133] ABfinity™ Recombinant Rabbit Monoclonal Antibody - Purified

Catalog no. 700129

(See product label for lot information)

Clone/PAD: B16H16L26
Isotype: IgG
Gene ID: 1385
Protein Acc. no.: P16220
Qty: 100 µg
Volume: 200 µl
Concentration: 0.5 mg/mL

Formulation
PBS + 0.09% sodium azide

Validation
Validated for use in WB

Immunogen
Peptide

Immunogen sequence
RRP[pS]YRKILND

Sequence Identity
Human

Sequence Homology
N/A

Expected Reactivity
Based on sequence identity and similarity, reactivity to Human and N/A is expected.

Storage
2-8°C for up to 1 month, -20°C for long term storage. Avoid repeated freezing and thawing.

Expiration Date
Expires one year from date of receipt when stored as instructed.

Background
CREB1 (cAMP responsive element binding protein) encodes for a 43kDa protein, a transcription factor and belongs to leucine zipper family. CREB1 binds to the cyclic-AMP response element as a homodimer (3). Phosphorylated form of CREB1 act as an inducer of transcription for the genes, upon harmone dependent stimulation of cyclic-AMP pathway. CREB is phosphorylated at Ser133 by various signaling pathways including Ca2+ and stress signaling (5). CREB1 is known to play important role in memory formation (1,2). Aberration in CREB-mediated gene expression has been linked with Alzheimer disease hippocampus (4,6).

References

(1) Bartsch, D., Casadio, A., Karl, K.A., Serodio, P., and Kandel, E.R. (1998). CREB1 encodes a nuclear activator, a repressor, and a cytoplasmic modulator that form a regulatory unit critical for long-term facilitation. Cell 95, 211-223.

(2) Dash, P.K., Hochner, B., and Kandel, E.R. (1990). Injection of the cAMP-responsive element into the nucleus of Aplysia sensory neurons blocks long-term facilitation. Nature 345, 718-721.

(3) Hoeffler, J.P., Meyer, T.E., Yun, Y., Jameson, J.L., and Habener, J.F. (1988). Cyclic AMP-responsive DNA-binding protein: structure based on a cloned placental cDNA. Science (New York, NY 242, 1430-1433.

(4) Satoh, J., Tabunoki, H., and Arima, K. (2009). Molecular network analysis suggests aberrant CREB-mediated gene regulation in the Alzheimer disease hippocampus. Disease markers 27, 239-252.

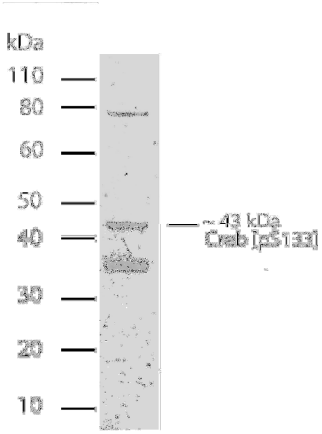
(5) Tan, Y., Rouse, J., Zhang, A., Cariati, S., Cohen, P., and Comb, M.J. (1996). FGF and stress regulate CREB and ATF-1 via a pathway involving p38 MAP kinase and MAPKAP kinase-2. The EMBO journal 15, 4629-4642.

(6) Xing, J., Kornhauser, J.M., Xia, Z., Thiele, E.A., and Greenberg, M.E. (1998). Nerve growth factor activates extracellular signal-regulated kinase and p38 mitogen-activated protein kinase pathways to stimulate CREB serine 133 phosphorylation. Molecular and cellular biology 18, 1946-1955.

Following applications had been tested during development. To make sure the consistency and reliability in the future lots, each lot is tested with antigen ELISA for specificity and potency. Each lot is also tested with SDS-PAGE, to ensure high purity.

Applications:

	Species	Test Material	Concentration
Western Blotting	Mouse	NIH3T3 + PDGF	0.01-1 µg/ml



Western Blot of Creb [pS133] labeled with rabbit anti-Creb [pS133] (Cat. No. 700129).

Rabbit anti- Creb [pS133] (0.01 µg/ml) was used to label Creb [pS133] in cell lysate of NIH/3T3 treated with PDGF (30 µg). The western was performed using the WesternBreeze® kit with NBT/BCIP as the substrate (Cat. No.WB7105). The 43kDa band corresponds to the pS133 CREB. The second 37 kDa band is seen in many cell types and is probably a close member of the ATF family. Competition assays show the disappearance of both the bands.