SANTA CRUZ BIOTECHNOLOGY, INC.

CRF (2B11): sc-293187

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Individuals suffering from Alzheimer's disease (AD) exhibit dramatic reductions in the content of corticotropin-releasing factor (CRF), increased expression of CRF receptors (CRFRs) and abnormalities in neuronal morphology in affected brain areas. In addition, AD patients show decreased concentrations of CRF in their cerebrospinal fluid, which may contribute to their cognitive impairment. A high affinity CRF binding protein, designated CRF-BP, has been discovered in post-mortem brain samples from AD patients. CRF-BP serves to bind and inactivate CRF, reducing the pool of "free CRF" available to bind CRFRs. Two CRFRs, designated CRF-RI and CFR-RII, have been described and exhibit distinct brain localizations. There are two forms of CFR-RII, referred to as CFR-RII α and CFR-RII β, that result from alternative mRNA splicings. An additional member of the CRF family, urocortin, shares 63% sequence identity with uro-tensin and 45% sequence identity with CRF. Urocortin specifically binds to and activates CRF-RI and CRF-RII, but binds to CRF-RII more efficiently than CRF, suggesting that it may be the true, high affinity ligand for the CRF receptor type II.

REFERENCES

1. Behan, D.P., et al. 1995. Displacement of corticotropin releasing factor from its binding protein as a possible treatment for Alzheimer's disease. Nature 378: 284-287.
2. Behan, D.P., et al. 1995. Corticotropin releasing factor binding protein (CRF-BP) is expressed in neuronal and astrocytic cells. Brain Res. 698: 259-264.
3. Behan, D.P., et al. 1995. Corticotropin releasing factor (CRF) binding protein: a novel regulator of CRF and related peptides. Front. Neuroendocrinol. 16: 362-382.
4. Chalmers, D.T., et al. 1995. Localization of novel corticotropin-releasing factor receptor (CRF2) mRNA expression to specific subcortical nuclei in rat brain: comparison with CRF1 receptor mRNA expression. J. Neurosci. 15: 6340-6350.
5. Lovenberg, T.W., et al. 1995. CRF2 α and CRF2 β receptor mRNAs are differentially distributed between the rat central nervous system and peripheral tissues. Endocrinology 136: 4139-4142.
6. Vaughan, J., et al. 1995. Urocortin, a mammalian neuropeptide related to fish urotensin I and to corticotropin-releasing factor. Nature 378: 287-292.

CHROMOSOMAL LOCATION

Genetic locus: CRH (human) mapping to 8q13.1; Crh (mouse) mapping to 3 A2.

SOURCE

CRF (2B11) is a mouse monoclonal antibody raised against a partial recombinant protein corresponding to amino acids 154-196 of CRF of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

CRF (2B11) is recommended for detection of CRF of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for CRF siRNA (h): sc-39395, CRF siRNA (m): sc-39396, CRF shRNA Plasmid (h): sc-39395-SH, CRF shRNA Plasmid (m): sc-39396-SH, CRF shRNA (h) Lentiviral Particles: sc-39395-V and CRF shRNA (m) Lentiviral Particles: sc-39396-V.

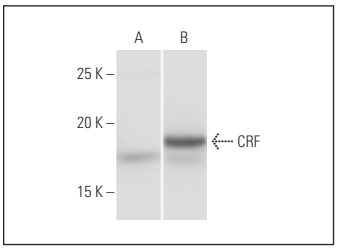
Molecular Weight of CRF: 25 kDa.

Positive Control: CRF transfected 293T whole cell lysate.

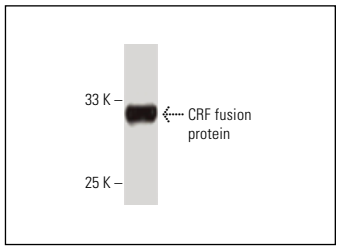
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



CRF (2B11): sc-293187. Western blot analysis of CRF expression in non-transfected (**A**) and CRF transfected (**B**) 293T whole cell lysates.



CRF (2B11): sc-293187. Western blot analysis of human recombinant CRF fusion protein.

SELECT PRODUCT CITATIONS

1. Balan, I., et al. 2018. Innately activated TLR4 signal in the nucleus accumbens is sustained by CRF amplification loop and regulates impulsivity. Brain Behav. Immun. 69: 139-153.
2. Cabeza, L., et al. 2021. Chronic exposure to glucocorticoids induces suboptimal decision-making in mice. Eur. Neuropsychopharmacol. 46: 56-67.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.