SANTA CRUZ BIOTECHNOLOGY, INC.

CRF-RI/II (H-215): sc-5543

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 postmortem brain samples from AD patients. CRF-BP serves to bind and inactivate CRF, reducing the pool of "free CRF" available to bind CRFRs. Two CRF receptors, designated CRF-RI and CFR-RII, exhibit distinct brain localizations. Two forms of CFR-RII, designated CFR-RIIα and CFR-RIIβ, result from alternative mRNA splicing. Urocortin, an additional member of the CRF family, shares 63% sequence identity with urotensin 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.

CHROMOSOMAL LOCATION

Genetic locus: CRHR1 (human) mapping to 17q21.31, CRHR2 (human) mapping to 7p14.3; Crhr1 (mouse) mapping to 11 E1, Crhr2 (mouse) mapping to 6 B3.

SOURCE

CRF-RI/II (H-215) is a rabbit polyclonal antibody raised against amino acids 230-444 of CRF-RI of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

CRF-RI/II (H-215) is recommended for detection of CRF-RI and CRF-RII 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)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

CRF-RI/II (H-215) is also recommended for detection of CRF-RI and CRF-RII in additional species, including equine, canine, bovine, porcine and avian.

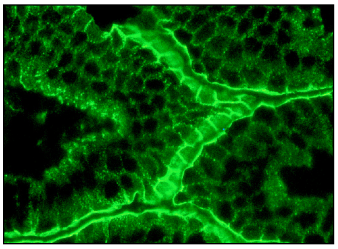
Molecular Weight of CRF-RI/II: 53-66 kDa.

Positive Controls: BC_3H1 cell lysate: sc-2299 or U-87 MG cell lysate: sc-2411.

STORAGE

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

DATA



CRF-RI/II (H-215): sc-5543. Immunofluorescence staining of normal mouse intestine frozen section showing membrane staining.

SELECT PRODUCT CITATIONS

1. Jeske, N.A., et al. 2004. Metalloendopeptidase EC3.4.24.15 is constitutively released from the exofacial leaflet of lipid rafts in GT1-7 cells. J. Neurochem. 90: 819-828.
2. Treweek, J.B., et al. 2009. Electron microscopic localization of corticotropin-releasing factor (CRF) and CRF receptor in rat and mouse central nucleus of the amygdala. J. Comp. Neurol. 512: 323-335.
3. Jaferi, A., et al. 2009. µ-opioid and corticotropin-releasing-factor receptors show largely postsynaptic co-expression, and separate presynaptic distributions, in the mouse central amygdala and bed nucleus of the stria terminalis. Neuroscience 159: 526-539.
4. Jaferi, A., et al. 2009. Subcellular plasticity of the corticotropin-releasing factor receptor in dendrites of the mouse bed nucleus of the stria terminalis following chronic opiate exposure. Neuroscience 163: 143-154.
5. Pan, Y., et al. 2010. Icariin attenuates chronic mild stress-induced dysregulation of the LHPA stress circuit in rats. Psychoneuroendocrinology 35: 272-283.
6. Pan, Y., et al. 2012. Impaired hypothalamic insulin signaling in CUMS rats: restored by icariin and fluoxetine through inhibiting CRF system. Psychoneuroendocrinology 38: 122-134.
7. Razolli, D.S., et al. 2012. Hypothalamic action of glutamate leads to body mass reduction through a mechanism partially dependent on JAK2. J. Cell. Biochem. 113: 1182-1189.
8. Wang, F.F., et al. 2012. Plasma corticotrophin response to desmopressin in patients with Cushing's disease correlates with the expression of vasopressin receptor 2, but not with that of vasopressin receptor 1 or 3, in their pituitary tumours. Clin. Endocrinol. 76: 253-263.

RESEARCH USE

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