SANTA CRUZ BIOTECHNOLOGY, INC.

CRF-RI (Q-20): sc-12383

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. Corticotropin releasing factor binding protein (CRF-BP) is expressed in neuronal and astrocytic cells. Brain Res. 698: 259-264.
2. Lovenberg, T.W., et al. 1995. CRF2α and CRF2β receptor mRNAs are differentially distributed between the rat central nervous system and peripheral tissues. Endocrinology 136: 4139-4142.
3. 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.
4. 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.
5. 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.
6. Liaw, C.W., et al. 1996. Cloning and characterization of the human corticotropin-releasing factor-2 receptor complementary deoxyribonucleic acid. Endocrinology 137: 72-77.

CHROMOSOMAL LOCATION

Genetic locus: CRHR1 (human) mapping to 17q21.31; Crhr1 (mouse) mapping to 11 E1.

SOURCE

CRF-RI (Q-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of CRF-RI of mouse origin.

STORAGE

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

PRODUCT

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

Blocking peptide available for competition studies, sc-12383 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

CRF-RI (Q-20) is recommended for detection of CRF-RI of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 (Q-20) is also recommended for detection of CRF-RI in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for CRF-RI siRNA (h): sc-39914, CRF-RI siRNA (m): sc-39915, CRF-RI siRNA (r): sc-61839, CRF-RI shRNA Plasmid (h): sc-39914-SH, CRF-RI shRNA Plasmid (m): sc-39915-SH, CRF-RI shRNA Plasmid (r): sc-61839-SH, CRF-RI shRNA (h) Lentiviral Particles: sc-39914-V, CRF-RI shRNA (m) Lentiviral Particles: sc-39915-V and CRF-RI shRNA (r) Lentiviral Particles: sc-61839-V.

Moledular Weight of CRF-RI: 53-66 kDa.

SELECT PRODUCT CITATIONS

1. Liu, S., et al. 2005. Expression of type 1 corticotropin-releasing factor receptor in the guinea pig enteric nervous system. J. Comp. Neurol. 481: 284-298.
2. Porcher, C., et al. 2006. Endogenous expression and *in vitro* study of CRF-related peptides and CRF receptors in the rat gastric antrum. Peptides 27: 1464-1475.
3. Jin, T.E., et al. 2008. Involvement of corticotropin-releasing factor receptor 2 β in differentiation of dopaminergic MN9D cells. Mol. Cells 26: 243-249.
4. Hanstein, R., et al. 2009. Increased connexin 43 expression as a potential mediator of the neuroprotective activity of the corticotropin-releasing hormone. Mol. Endocrinol. 23: 1479-1493.
5. Liu, S., et al. 2010. Differential actions of urocortins on neurons of the myenteric division of the enteric nervous system in guinea pig distal colon. Br. J. Pharmacol. 159: 222-236.
6. Kubo, Y., et al. 2010. Urocortin prevents indomethacin-induced small intestinal lesions in rats through activation of CRF2 receptors. Dig. Dis. Sci. 55: 1570-1580.
7. Squillacioti, C., et al. 2011. Expression of urocortin and corticotropin-releasing hormone receptors in the bovine adrenal gland. Gen. Comp. Endocrinol. 172: 416-422.

RESEARCH USE

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