

CRF-RI (V-14): sc-12381

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 CRF-RII, exhibit distinct brain localizations. Two forms of CRF-RII, designated CRF-RII α and CRF-RII β , 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.

CHROMOSOMAL LOCATION

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

SOURCE

CRF-RI (V-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of CRF-RI of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-12381 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

CRF-RI (V-14) is recommended for detection of all CRF-RI isoforms 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 (V-14) is also recommended for detection of all CRF-RI isoforms in additional species, including equine, canine, bovine, porcine and avian.

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

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

STORAGE

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

SELECT PRODUCT CITATIONS

- Sehringer, B., et al. 2004. mRNA expression profiles for corticotropin-releasing hormone, urocortin, CRH-binding protein and CRH receptors in human term gestational tissues determined by real-time quantitative RT-PCR. *J. Mol. Endocrinol.* 32: 339-348.
- Fukuda, T., et al. 2005. Urocortin 1, urocortin 3/stresscopin, and corticotropin-releasing factor receptors in human adrenal and its disorders. *J. Clin. Endocrinol. Metab.* 90: 4671-4678.
- Xu, J., et al. 2006. Dynamic expression and regulation of the corticotropin-releasing hormone/urocortin-receptor-binding protein system in the primate ovary during the menstrual cycle. *J. Clin. Endocrinol. Metab.* 91: 1544-1553.
- Klimaviciute, A., et al. 2006. Corticotropin-releasing hormone, its binding protein and receptors in human cervical tissue at preterm and term labor in comparison to non-pregnant state. *Reprod. Biol. Endocrinol.* 4: 29.
- Gao, L., et al. 2007. Corticotropin-releasing hormone receptor type 1 and type 2 mediate differential effects on 15-hydroxy prostaglandin dehydrogenase expression in cultured human chorion trophoblasts. *Endocrinology* 148: 1524-1538.
- Tu, H., et al. 2007. Corticotropin-releasing hormone receptor (CRHR)1 and CRHR2 are both trafficking and signaling receptors for urocortin. *Mol. Endocrinol.* 21: 700-711.
- Pringle, R.B., et al. 2008. Amphetamine treatment increases corticotropin-releasing factor receptors in the dorsal raphe nucleus. *Neurosci. Res.* 62: 62-65.
- Dong, H., et al. 2008. Corticosterone and related receptor expression are associated with increased β -amyloid plaques in isolated Tg2576 mice. *Neuroscience* 155: 154-163.
- Lukkes, J.L., et al. 2009. Early life social isolation alters corticotropin-releasing factor responses in adult rats. *Neuroscience* 158: 845-855.
- Fan, J.M., et al. 2009. Gestational hypoxia alone or combined with restraint sensitizes the hypothalamic-pituitary-adrenal axis and induces anxiety-like behavior in adult male rat offspring. *Neuroscience* 159: 1363-1373.
- Miceli, F., et al. 2009. Expression and subcellular localization of CRH and its receptors in human endometrial cancer. *Mol. Cell. Endocrinol.* 305: 6-11.
- Cong, B., et al. 2009. Reduced expression of CRH receptor type 1 in upper segment human myometrium during labour. *Reprod. Biol. Endocrinol.* 7: 43.
- Xu, C., et al. 2011. CRH acts on CRH-R1 and -R2 to differentially modulate the expression of large-conductance calcium-activated potassium channels in human pregnant myometrium. *Endocrinology* 152: 4406-4417.

RESEARCH USE

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