SANTA CRUZ BIOTECHNOLOGY, INC.

bradykinin B1 R (3A2): sc-293196

The Power to Question

BACKGROUND

Kinins are important biologically active peptides that mediate cardiovascular homeostasis, inflammation and nociception. Bradykinin, the major effector peptide of the kallikrein-kinin system, is regulated by angiotensin-converting enzyme (ACE), which degrades the peptide. Bradykinin normally exerts its effects through the activation of two seven transmembrane G protein-coupled receptors, named B1 and B2. The B2 receptor is constitutively expressed and preferentially binds full length bradykinin. Deletion of the B2 receptor leads to salt-sensitive hypertension and altered nociception in mice. The B1 receptor binds to derivatives of bradykinin and kallidin, which are produced by carboxypeptidase action to generate the products des-Arg9-bradykinin and des-Arg10-kallidin, respectively. The expression of the B1 receptor is inducible by inflammatory mediators, such as bacterial lipopolysaccharide (LPS) and cytokines. The B1 and B2 receptors represent potential therapeutic targets for treatment of inflammatory disorders and cardiovascular diseases.

REFERENCES

1. Trifilieff, A., et al. 1993. Kinins and respiratory tract diseases. Eur. Respir. J. 6: 576-587.
2. Borkowski, J.A., et al. 1995. Targeted disruption of a B2 bradykinin receptor gene in mice eliminates bradykinin action in smooth muscle and neurons. J. Biol. Chem. 270: 13706-13710.
3. Rupniak, N.M., et al. 1997. Effects of the bradykinin B1 receptor antagonist des-Arg9[Leu8]bradykinin and genetic disruption of the B2 receptor on nociception in rats and mice. Pain 71: 89-97.

CHROMOSOMAL LOCATION

Genetic locus: BDKRB1 (human) mapping to 14q32.2.

SOURCE

bradykinin B1 R (3A2) is a mouse monoclonal antibody raised against amino acids 1-353 representing full length bradykinin B1 R 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

bradykinin B1 R (3A2) is recommended for detection of bradykinin B1 R of 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 bradykinin B1 R siRNA (h): sc-39878, bradykinin B1 R shRNA Plasmid (h): sc-39878-SH and bradykinin B1 R shRNA (h) Lentiviral Particles: sc-39878-V.

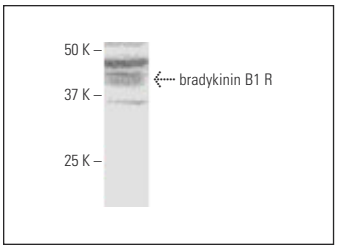
Molecular Weight of bradykinin B1 R: 35 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206 or human liver extract: sc-363766.

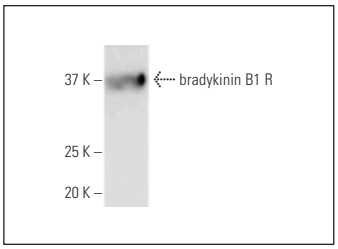
RECOMMENDED SUPPORT REAGENTS

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



bradykinin B1 R (3A2): sc-293196. Western blot analysis of bradykinin B1 R expression in MCF7 whole cell lysate.



bradykinin B1 R (3A2): sc-293196. Western blot analysis of bradykinin B1 R expression in human liver tissue extract.

SELECT PRODUCT CITATIONS

1. Wu, M., et al. 2016. Bradykinin receptors and EphB2/EphrinB2 pathway in response to high glucose-induced osteoblast dysfunction and hyperglycemia-induced bone deterioration in mice. Int. J. Mol. Med. 37: 565-574.
2. Yang, C.M., et al. 2017. Resveratrol inhibits BK-induced Cox-2 transcription by suppressing acetylation of AP-1 and NFκB in human rheumatoid arthritis synovial fibroblasts. Biochem. Pharmacol. 132: 77-91.
3. Khaddaj Mallat, R., et al. 2019. Pharmacological targeting of KCa channels to improve endothelial function in the spontaneously hypertensive rat. Int. J. Mol. Sci. 20: 3481.
4. Alves, S.A.S., et al. 2021. Surface megalin expression is a target to the inhibitory effect of bradykinin on the renal albumin endocytosis. Peptides 146: 170646.
5. Song, J., et al. 2021. Dexmedetomidine protects the heart against ischemia reperfusion injury via regulation of the bradykinin receptors. Eur. J. Pharmacol. 911: 174493.

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.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.