BACKGROUND

Adenylyl cyclases function to convert ATP to cyclic AMP in response to activation by a variety of hormones, neurotransmitters and other regulatory molecules. Adenylyl cyclases respond to receptor-initiated signals, mediated by the G_α and G_βγ heterotrimeric G proteins. The binding of an agonist to a G_α-coupled receptor catalyzes the exchange of GDP (bound to G_α_s) for GTP, dissociation of GTP-G_α_s from G_βγ and G_α_s-mediated activation of adenylyl cyclase. Adenylyl cyclase type VII (AC VII) is expressed in specific nephron segments and renal proximal tubules. All of the AC isoforms, except VIII, are expressed in glomeruli. Ca2+/calmodulin-independent isoform VII is localized to sites in position to the basolateral extensions of marginal cells and exhibits moderate staining in type II and type IV fibrocytes in rat cochlea. Sustained activation of cAMP system increases expression of AC I, III, VI, VII and IV, whereas the level of AC II is decreased, and results in increase of cAMP accumulation. Acute activation of the D2 dopaminergic and m4 muscarinic receptors stimulates AC VII, whereas chronic receptor activation leads to a reduction in AC VII activity.

REFERENCES


SOURCE

A cyclase VII (H-120) is a rabbit polyclonal antibody raised against amino acids 601-720 mapping to an internal region of A cyclase VII 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

A cyclase VII (H-120) is recommended for detection of A cyclase VII 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).

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/ 2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (2.0 ml). Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048.

SELECT PRODUCT CITATIONS


RESEARCH USE

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

PROTOCOLS

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