

A cyclase IX (H-300): sc-20765

BACKGROUND

Adenylyl cyclases function to convert ATP to cyclic AMP in response to activation by a variety of hormones, neurotransmitters and other regulatory molecules. Cyclic AMP, in turn, activates several other target molecules (primarily cyclic AMP-dependent protein kinases) to control a broad range of diverse phenomena such as metabolism, gene transcription and memory. Classically, adenylyl cyclases respond to receptor-initiated signals, mediated by the Gs and Gi heterotrimeric G proteins. The binding of an agonist to a Gs-coupled receptor (i.e., a α -adrenergic receptor) catalyzes the exchange of GDP (bound to G α s) for GTP, dissociation of GTP-G α s from G $\beta\gamma$ and G α s-mediated activation of adenylyl cyclase. The most abundant cerebral adenylyl cyclase appears to be adenylyl cyclase IX. AC IX is confined to the gray matter and its expression is mainly neuronal, with its highest expression located at the hippocampus. ACIX is also expressed in heart, pancreas and thyrocytes. AC I and AC IX are regulated reciprocally by intracellular free Ca²⁺. The inhibition of AC IX by Ca²⁺ is blocked by the calcineurin inhibitors FK506 and cyclosporin A.

REFERENCES

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4. Taussig, R., et al. 1994. Distinct patterns of bidirectional regulation of mammalian adenylyl cyclases. *J. Biol. Chem.* 269: 6093-6100.
5. Paterson, J.M., et al. 1995. Control of a novel adenylyl cyclase by calcineurin. *Biochem. Biophys. Res. Commun.* 214: 1000-1008.
6. Antoni, F.A., et al. 1998. Ca²⁺/calcineurin-inhibited adenylyl cyclase, highly abundant in forebrain regions, is important for learning and memory. *J. Neurosci.* 18: 9650-9661.
7. Vanvooren, V., et al. 2000. Expression of multiple adenylyl cyclases isoforms in human and dog thyroid. *Mol. Cell Endocrinol.* 170: 185-196.
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SOURCE

A cyclase IX (H-300) is a rabbit polyclonal antibody raised against amino acids 1-300 mapping at the N-terminus of adenylyl cyclase IX 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.

STORAGE

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

APPLICATIONS

A cyclase IX (H-300) is recommended for detection of adenylyl cyclase IX of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1–2 μ g per 100–500 μ g 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).

Suitable for use as control antibody for A cyclase IX siRNA (h): sc-29604 and A cyclase IX siRNA (m): sc-29605.

Molecular Weight of A cyclase IX: 161 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203.

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 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

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.