

A cyclase V/VI (C-17): sc-590

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 to control a broad range of diverse phenomena such as metabolism, gene transcription and memory. Adenylyl cyclases respond to receptor-initiated signals, mediated by the G_s and G_i heterotrimeric G proteins. The binding of an agonist to a G_s -coupled receptor catalyzes the exchange of GDP (bound to $G_{\alpha s}$) for GTP, the dissociation of GTP- $G_{\alpha s}$ from $G_{\beta\gamma}$ and $G_{\alpha s}$ -mediated activation of adenylyl cyclase. Adenylyl cyclases V (AC V) and VI (AC VI) have multiple messages. AC V and AC VI are highly expressed in heart. Unlike AC VI, AC V is expressed to a lesser extent in brain and is absent in a variety of other tissues. Both AC V and AC VI can be stimulated by NaF, guanosine 5'-[γ -thio]triphosphate and Forskolin but not by Ca^{2+} /calmodulin. Activation of the D2 dopaminergic and m4 muscarine receptors inhibit the activity of adenylyl cyclase isozymes I, V, VI and VIII, whereas type II, IV and VII are stimulated and type III is not affected.

SOURCE

A cyclase V/VI (C-17) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the C-terminus of A cyclase VI 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-590 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

A cyclase V/VI (C-17) is recommended for detection of A cyclase V, A cyclase VI and, to a lesser extent, A cyclase I 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

A cyclase V/VI (C-17) is also recommended for detection of A cyclase V, A cyclase VI and, to a lesser extent, A cyclase I in additional species, including equine, canine, bovine and porcine.

Molecular Weight of A cyclase V/VI: 132 kDa.

Positive Controls: SK-N-SH cell lysate: sc-2410 or C6 whole cell lysate: sc-364373.

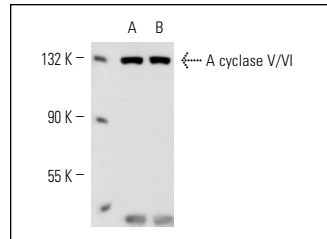
STORAGE

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

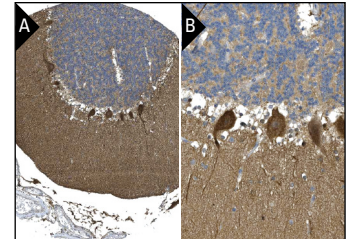
RESEARCH USE

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

DATA



A cyclase V/VI (C-17): sc-590. Western blot analysis of A cyclase V/VI expression in SK-N-SH (A) and C6 (B) whole cell lysates.



A cyclase V/VI (C-17): sc-590. Immunoperoxidase staining of formalin fixed, paraffin-embedded human cerebellum tissue showing cytoplasmic staining of Purkinje cells and cells in granular layers at low (A) and high (B) magnifications. Kindly provided by The Swedish Human Protein Atlas (HPA) program.

SELECT PRODUCT CITATIONS

1. Yamamoto, M., et al. 1996. Reduced immunoreactivity of adenylyl cyclase in dementia of the Alzheimer type. *Neuroreport* 7: 2965-2970.
2. Li, X.C., et al. 2009. AT1 α receptor knockout in mice impairs urine concentration by reducing basal vasopressin levels and its receptor signaling proteins in the inner medulla. *Kidney Int.* 76: 169-177.
3. Saowakon, N., et al. 2009. Fasciola gigantica: anthelmintic effect of the aqueous extract of Artocarpus lakoocha. *Exp. Parasitol.* 122: 289-298.
4. Hu, C.L., et al. 2009. Adenylyl cyclase type 5 protein expression during cardiac development and stress. *Am. J. Physiol. Heart Circ. Physiol.* 297: H1776-H1782.
5. Göttle, M., et al. 2009. Characterization of mouse heart adenylyl cyclase. *J. Pharmacol. Exp. Ther.* 329: 1156-1165.
6. Wu, C.Y., et al. 2010. The contribution of AKAP5 in amylase secretion from mouse parotid acini. *Am. J. Physiol., Cell Physiol.* 298: C1151-C1158.
7. Zalduegui, A., et al. 2011. Levels of $G_{s\alpha}$ (short and long), $G_{\alpha_{olf}}$ and G_{β} subunits, and calcium-sensitive adenylyl cyclase isoforms (1, 5/6, 8) in post-mortem human brain caudate and cortical membranes: comparison with rat brain membranes and potential stoichiometric relationships. *Neurochem. Int.* 58: 180-189.
8. Schönraht, K., et al. 2011. Involvement of VILIP-1 (visinin-like protein) and opposite roles of cyclic AMP and GMP signaling in *in vitro* cell migration of murine skin squamous cell carcinoma. *Mol. Carcinog.* 50: 319-333.



Try **A cyclase V/VI (B-6): sc-514785**, our highly recommended monoclonal alternative to A cyclase V/VI (C-17).