SANTA CRUZ BIOTECHNOLOGY, INC.

A cyclase VIII (L-17): sc-32129

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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_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, dissociation of GTP-$G_{\alpha s}$ from $G_{\beta\gamma}$ and $G_{\alpha s}$-mediated activation of adenylyl cyclase. Adenylyl cyclase type VIII (A cyclase VIII) is one of the three mammalian calcium-stimulated isoforms, each of which is expressed in a region-specific manner in the central nervous system. In addition to the high expression in the brain, A cyclase VIII is also expressed in the lung. Ca^{2+}/calmodulin-dependent A cyclase VIII immunoreactivity is increased in alcoholic corpus amyadaloideum and hippocampus, suggesting that adenyl cyclase may play a role in the pathophysiology of alcoholism. A significant decrease in the level of A cyclase I and a tendency to decrease in the level of A cyclase VIII in Alzheimer's disease hippocampus suggests that A cyclase I and VIII may play an essential role in learning and memory. A cyclase VIII knock-out mice do not have normal increases in behavioral markers of anxiety; thus, A cyclase VIII may also function in the modulation of anxiety.

REFERENCES

1. Gilman, A.G. 1987. G proteins: transducers of receptor-generated signals. Annu. Rev. Biochem. 56: 615-649.
2. Bourne, H.R., et al. 1990. The GTPase superfamily: a conserved switch for diverse cell functions. Nature 348: 125-132.
3. Tang, W.J., et al. 1992. Adenylyl cyclases. Cell 70: 869-872.
4. Taussig, R., et al. 1994. Distinct patterns of bidirectional regulation of mammalian adenylyl cyclases. J. Biol. Chem. 269: 6093-6100.
5. Muglia, L.M., et al. 1999. The 5'-flanking region of the mouse adenylyl cyclase type VIII gene imparts tissue-specific expression in transgenic mice. J. Neurosci. 19: 2051-2058.

CHROMOSOMAL LOCATION

Genetic locus: ADCY8 (human) mapping to 8q24.22; Adcy8 (mouse) mapping to 15 D1.

SOURCE

A cyclase VIII (L-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an N-terminal cytoplasmic domain of A cyclase VIII 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.

Blocking peptide available for competition studies, sc-32129 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

A cyclase VIII (L-17) is recommended for detection of Adenylyl cyclase VIII 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).

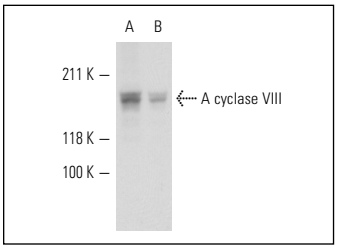
A cyclase VIII (L-17) is also recommended for detection of Adenylyl cyclase VIII in additional species, including equine and bovine.

Suitable for use as control antibody for A cyclase VIII siRNA (h): sc-40325, A cyclase VIII siRNA (m): sc-40326, A cyclase VIII shRNA Plasmid (h): sc-40325-SH, A cyclase VIII shRNA Plasmid (m): sc-40326-SH, A cyclase VIII shRNA (h) Lentiviral Particles: sc-40325-V and A cyclase VIII shRNA (m) Lentiviral Particles: sc-40326-V.

Molecular Weight of A cyclase VIII: 165 kDa.

Positive Controls: U-87 MG cell lysate: sc-2411, T98G cell lysate: sc-2294 or IMR-32 cell lysate: sc-2409.

DATA



A cyclase VIII (L-17): sc-32129. Western blot analysis of A cyclase VIII expression in U-87 MG (**A**) and T98G (**B**) whole cell lysates.

STORAGE

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

PROTOCOLS

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