SANTA CRUZ BIOTECHNOLOGY, INC.

A cyclase (C-5): sc-377243

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. 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 G_s and G_i heterotrimeric G proteins. The binding of an agonist to a G_s-coupled receptor (i.e., a β-adrenergic 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. Over the past few years, at least nine distinct isoforms of adenylyl cyclases have been cloned and expressed. In addition, numerous partial cDNA clones have been described, indicating that the total number of adenylyl cyclases may be even larger.

SOURCE

A cyclase (C-5) is a mouse monoclonal antibody raised against amino acids 1183-1215 of Adenylyl cyclase of rat origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

A cyclase (C-5) is available conjugated to agarose (sc-377243 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-377243 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-377243 PE), fluorescein (sc-377243 FITC), Alexa Fluor® 488 (sc-377243 AF488), Alexa Fluor® 546 (sc-377243 AF546), Alexa Fluor® 594 (sc-377243 AF594) or Alexa Fluor® 647 (sc-377243 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-377243 AF680) or Alexa Fluor® 790 (sc-377243 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

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 (C-5) is recommended for detection of adenylyl cyclase family members of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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), 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 (C-5) is also recommended for detection of adenylyl cyclase family members in additional species, including equine, canine, bovine and porcine.

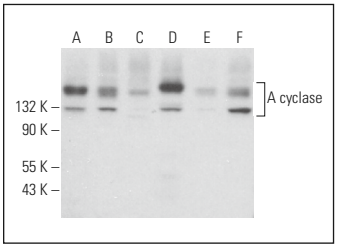
Molecular Weight of A cyclase: 130 kDa.

Positive Controls: H4 cell lysate: sc-2408, T98G cell lysate: sc-2294 or Neuro-2A whole cell lysate: sc-364185.

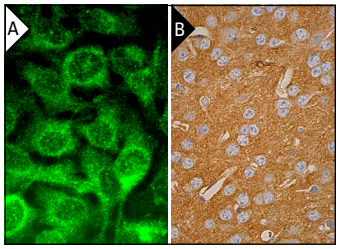
RECOMMENDED SUPPORT REAGENTS

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). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



A cyclase (C-5): sc-377243. Western blot analysis of A cyclase expression in H4 (**A**), T98G (**B**), Neuro-2A (**C**) and C6 (**D**) whole cell lysates and mouse postnatal brain (**E**) and rat brain (**F**) tissue extracts.



A cyclase (C-5): sc-377243. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded mouse brain tissue showing cytoplasmic staining of neuronal cells, glial cells, endothelial cells and neuropil staining (**B**).

SELECT PRODUCT CITATIONS

1. Markova, V., et al. 2021. β-Arrestin 1 and 2 similarly influence μ-opioid receptor mobility and distinctly modulate adenylyl cyclase activity. Cell. Signal. 87: 110124.

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.