SANTA CRUZ BIOTECHNOLOGY, INC.

$G_{\alpha\ s/olf}$ (G-10): sc-365855

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Heterotrimeric G proteins function to relay information from cell surface receptors to intracellular effectors. Each of a very broad range of receptors specifically detects an extracellular stimulus (a photon, pheromone, odorant, hormone or neurotransmitter) while the effectors (e.g., adenyl cyclase), which act to generate one or more intracellular messengers, are less numerous. In mammals, G protein α, β and γ polypeptides are encoded by at least 16, 4 and 7 genes, respectively. Most interest in G proteins has been focused on their α subunits, since these proteins bind and hydrolyze GTP and most obviously regulate the activity of the best studied effectors. More recent evidence, however, has established an important regulatory role for the $\beta\gamma$ subunits. The G_s subfamily of G_α subunits includes two closely related proteins, $G_{\alpha\ s}$ and $G_{\alpha\ olf}$, which respectively stimulate adenylate cyclase and mediate response to olfactory stimuli.

REFERENCES

1. Jones, D.T. and Reed, R.R. 1991. Golf: an olfactory neuron specific G protein involved in odorant signal transduction. Science 244: 790-795.
2. Simon, M.I., et al. 1991. Diversity of G proteins in signal transduction. Science 252: 802-808.

CHROMOSOMAL LOCATION

Genetic locus: GNAS (human) mapping to 20q13.32, GNAL (human) mapping to 18p11.21; Gnas (mouse) mapping to 2 H4, Gnal (mouse) mapping to 18 E1.

SOURCE

$G_{\alpha\ s/olf}$ (G-10) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 369-394 at the C-terminus of $G_{\alpha\ s}$ 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.

$G_{\alpha\ s/olf}$ (G-10) is available conjugated to agarose (sc-365855 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-365855 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365855 PE), fluorescein (sc-365855 FITC), Alexa Fluor® 488 (sc-365855 AF488), Alexa Fluor® 546 (sc-365855 AF546), Alexa Fluor® 594 (sc-365855 AF594) or Alexa Fluor® 647 (sc-365855 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-365855 AF680) or Alexa Fluor® 790 (sc-365855 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-365855 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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

$G_{\alpha\ s/olf}$ (G-10) is recommended for detection of $G_{\alpha\ s}$ and $G_{\alpha\ olf}$ 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).

$G_{\alpha\ s/olf}$ (G-10) is also recommended for detection of $G_{\alpha\ s}$ and $G_{\alpha\ olf}$ in additional species, including canine, bovine, porcine and avian.

Molecular Weight of $G_{\alpha\ s}$ long form: 52 kDa.

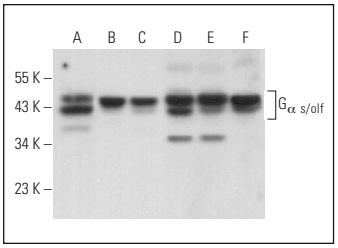
Molecular Weight of $G_{\alpha\ s}$ short form: 45 kDa.

Molecular Weight of $G_{\alpha\ olf}$: 45 kDa.

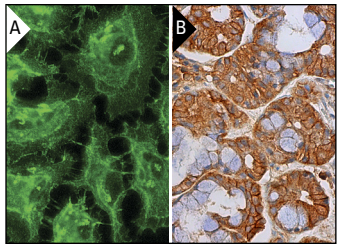
Molecular Weight of $G_{\alpha\ s/olf}$ proteolytic fragment: 39 kDa.

Positive Controls: Neuro-2A whole cell lysate: sc-364185, T98G cell lysate: sc-2294 or EOC 20 whole cell lysate: sc-364187.

DATA



$G_{\alpha\ s/olf}$ (G-10): sc-365855. Western blot analysis of $G_{\alpha\ s/olf}$ expression in T98G (**A**), Neuro-2A (**B**) and EOC 20 (**C**) whole cell lysates and mouse cerebellum (**D**), rat cerebellum (**E**) and mouse postnatal brain (**F**) tissue extracts.



$G_{\alpha\ s/olf}$ (G-10): sc-365855. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human salivary gland tissue showing membrane and cytoplasmic staining of glandular cells (**B**).

SELECT PRODUCT CITATIONS

1. Girada, S.B., et al. 2017. $G_{\alpha\ s}$ regulates Glucagon-like peptide 1 receptor-mediated cyclic AMP generation at Rab5 endosomal compartment. Mol. Metab. 6: 1173-1185.
2. Bele, S., et al. 2020. MS-275, a class 1 histone deacetylase inhibitor augments Glucagon-like peptide-1 receptor agonism to improve glycemic control and reduce obesity in diet-induced obese mice. Elife 9: e52212.
3. Breunig, M., et al. 2021. Modeling plasticity and dysplasia of pancreatic ductal organoids derived from human pluripotent stem cells. Cell Stem Cell 28: 1105-1124.e19.
4. Fan, Y.H., et al. 2022. Coexistence of craniopharyngioma and cranial fibrous dysplasia: a case series of clinicopathological study. Orphanet J. Rare Dis. 17: 126.

RESEARCH USE

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