SANTA CRUZ BIOTECHNOLOGY, INC.

$G_{\alpha\ gust}$ (I-20): sc-395

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. adenylcyclase), 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. Four distinct classes of G_α subunits have been identified; these include G_s, G_i, G_q and $G_{\alpha\ 12/13}$. Gustducin has been identified as a taste-cell-specific G protein within the G_i subclass of G_α subunit proteins that is most closely related to the transducins and exclusively expressed in taste buds.

CHROMOSOMAL LOCATION

Genetic locus: Gnat3 (mouse) mapping to 5 A3.

SOURCE

$G_{\alpha\ gust}$ (I-20) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within a highly divergent domain of $G_{\alpha\ gust}$ of rat origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-395 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

$G_{\alpha\ gust}$ (I-20) is recommended for detection of $G_{\alpha\ gust}$ of mouse and rat 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), 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).

Suitable for use as control antibody for $G_{\alpha\ gust}$ siRNA (m): sc-41749, $G_{\alpha\ gust}$ shRNA Plasmid (m): sc-41749-SH and $G_{\alpha\ gust}$ shRNA (m) Lentiviral Particles: sc-41749-V.

Positive Controls: mouse brain extract : sc-2253 or mouse small intestine extract: sc-364252.

STORAGE

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

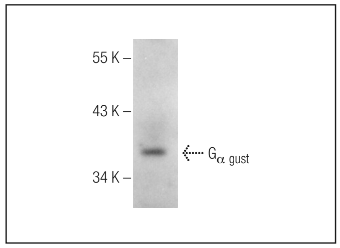
PROTOCOLS

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

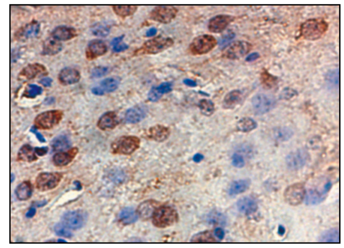
RESEARCH USE

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

DATA



$G_{\alpha\ gust}$ (I-20): sc-395. Western blot analysis of $G_{\alpha\ gust}$ expression in mouse small intestine tissue extract.



$G_{\alpha\ gust}$ (I-20): sc-395. Immunoperoxidase staining of formalin fixed, paraffin-embedded mouse brain tissue showing perinuclear localization.

SELECT PRODUCT CITATIONS

1. Boughter, J.D., Jr., et al. 1997. Differential expression of α-Gustducin in taste bud populations of the rat and hamster. J. Neurosci. 17: 2852-2858.
2. Gaillard, D., et al. 2008. The gustatory pathway is involved in CD36-mediated orosensory perception of long-chain fatty acids in the mouse. FASEB J. 22: 1458-1468.
3. Nakayama, A., et al. 2008. Expression of the basal cell markers of taste buds in the anterior tongue and soft palate of the mouse embryo. J. Comp. Neurol. 509: 211-224.
4. Wang, H., et al. 2009. Expression of the voltage-gated potassium channel KCNQ1 in mammalian taste bud cells and the effect of its null-mutation on taste preferences. J. Comp. Neurol. 512: 384-398.
5. Hegg, C.C., et al. 2010. Microvillous cells expressing IP3 receptor type 3 in the olfactory epithelium of mice. Eur. J. Neurosci. 32: 1632-1645.
6. Martin, C., et al. 2011. The lipid-sensor candidates CD36 and GPR120 are differentially regulated by dietary lipids in mouse taste buds: impact on spontaneous fat preference. PLoS ONE 6: e24014.
7. Ohtubo, Y. and Yoshii, K. 2011. Quantitative analysis of taste bud cell numbers in fungiform and soft palate taste buds of mice. Brain Res. 1367: 13-21.
8. Janssen, S., et al. 2011. Bitter taste receptors and α-gustducin regulate the secretion of ghrelin with functional effects on food intake and gastric emptying. Proc. Natl. Acad. Sci. USA 108: 2094-2099.
9. Steinert, R.E., et al. 2011. The functional involvement of gut-expressed sweet taste receptors in glucose-stimulated secretion of glucagon-like peptide-1 (GLP-1) and peptide YY (PYY). Clin. Nutr. 30: 524-532.
10. Janssen, S., et al. 2011. Bitter taste receptors and α-gustducin regulate the secretion of ghrelin with functional effects on food intake and gastric emptying. Proc. Natl. Acad. Sci. USA 108: 2094-2099.