

$G_{\alpha o}$ (K-20): sc-387

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 (i.e. adenylyl 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. Four distinct classes of G_{α} subunits have been identified; these include G_s , G_i , G_q and $G_{12/13}$. The G_i class comprises all the known α subunits that are susceptible to pertussis toxin modifications, including $G_{\alpha i-1}$, $G_{\alpha i-2}$, $G_{\alpha i-3}$, $G_{\alpha o}$, $G_{\alpha t1}$, $G_{\alpha t2}$, $G_{\alpha z}$ and $G_{\alpha gust}$. Of these, the three $G_{\alpha i}$ subtypes function to open atrial potassium channels.

CHROMOSOMAL LOCATION

Genetic locus: GNAO1 (human) mapping to 16q12.2; Gnao1 (mouse) mapping to 8 C5.

SOURCE

$G_{\alpha o}$ (K-20) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within a highly divergent domain of $G_{\alpha o}$ of rat 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-387 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

$G_{\alpha o}$ (K-20) is recommended for detection of $G_{\alpha o}$ of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

$G_{\alpha o}$ (K-20) is also recommended for detection of $G_{\alpha o}$ in additional species, including equine, canine, bovine and avian.

Suitable for use as control antibody for $G_{\alpha o}$ siRNA (h): sc-29326, $G_{\alpha o}$ siRNA (m): sc-37256, $G_{\alpha o}$ shRNA Plasmid (h): sc-29326-SH, $G_{\alpha o}$ shRNA Plasmid (m): sc-37256-SH, $G_{\alpha o}$ shRNA (h) Lentiviral Particles: sc-29326-V and $G_{\alpha o}$ shRNA (m) Lentiviral Particles: sc-37256-V.

Molecular Weight of $G_{\alpha o}$: 40 kDa.

Positive Controls: rat brain extract: sc-2392, IMR-32 cell lysate: sc-2409 or mouse brain extract: sc-2253.

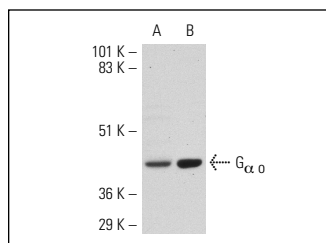
STORAGE

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

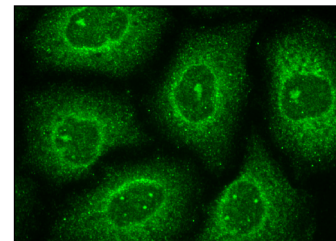
RESEARCH USE

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

DATA



$G_{\alpha o}$ (K-20): sc-387. Western blot analysis of $G_{\alpha o}$ expression in rat (A) and bovine (B) brain extracts.



$G_{\alpha o}$ (K-20): sc-387. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

- Formichini, E., et al. 1998. Expression of G_{α} proteins in the developing, denervated, or injured rat molar tooth. *Anat. Embryol.* 198: 515-522.
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- Garcia-Marcos, M., et al. 2011. Molecular basis of a novel oncogenic mutation in GNAO1. *Oncogene* 30: 2691-2696.
- Jungblut, L.D., et al. 2012. A putative functional vomeronasal system in anuran tadpoles. *J. Anat.* 221: 364-372.
- Valdizán, E.M., et al. 2012. Chronic treatment with the opioid antagonist naltrexone favours the coupling of spinal cord μ -opioid receptors to $G_{\alpha z}$ protein subunits. *Neuropharmacology* 62: 757-764.



Try $G_{\alpha o}$ (A2): sc-13532 or $G_{\alpha o}$ (E-1): sc-393874, our highly recommended monoclonal alternatives to $G_{\alpha o}$ (K-20). Also, for AC, HRP, FITC, PE, Alexa Fluor[®] 488 and Alexa Fluor[®] 647 conjugates, see $G_{\alpha o}$ (A2): sc-13532.