SANTA CRUZ BIOTECHNOLOGY, INC.

$G_{\alpha\ 13}$ (A-20): sc-410

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 (i.e., 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. Four distinct classes of G_{α} subunits have been identified; these include $G_{\alpha\ s}$, $G_{\alpha\ i}$, $G_{\alpha\ q}$ and $G_{\alpha\ 12/13}$. The two members of the fourth class of G_{α} subunit proteins, $G_{\alpha\ 12}$ and $G_{\alpha\ 13}$, are insensitive to ADP-ribosylation by pertussis toxin, share 67% identity with each other and less than 45% identity with other G_{α} subunits and are widely expressed in a broad range of tissues.

CHROMOSOMAL LOCATION

Genetic locus: GNA13 (human) mapping to 17q24.1; Gna13 (mouse) mapping to 11 E1.

SOURCE

$G_{\alpha\ 13}$ (A-20) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the N-terminus of $G_{\alpha\ 13}$ of mouse 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-410 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

$G_{\alpha\ 13}$ (A-20) is recommended for detection of $G_{\alpha\ 13}$ 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).

$G_{\alpha\ 13}$ (A-20) is also recommended for detection of $G_{\alpha\ 13}$ in additional species, including porcine and avian.

Suitable for use as control antibody for $G_{\alpha\ 13}$ siRNA (h): sc-35427, $G_{\alpha\ 13}$ siRNA (m): sc-35428, $G_{\alpha\ 13}$ shRNA Plasmid (h): sc-35427-SH, $G_{\alpha\ 13}$ shRNA Plasmid (m): sc-35428-SH, $G_{\alpha\ 13}$ shRNA (h) Lentiviral Particles: sc-35427-V and $G_{\alpha\ 13}$ shRNA (m) Lentiviral Particles: sc-35428-V.

Molecular Weight of $G_{\alpha\ 13}$: 44 kDa.

Positive Controls: Y79 cell lysate: sc-2240, F9 cell lysate: sc-2245 or $G_{\alpha\ 13}$ (m): 293T Lysate: sc-125358.

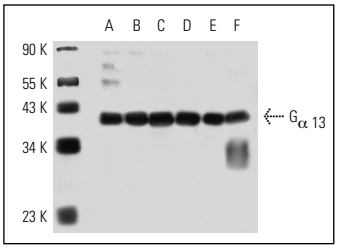
RESEARCH USE

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

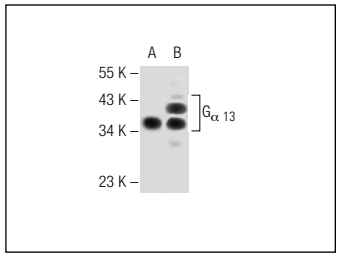
STORAGE

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

DATA



$G_{\alpha\ 13}$ (A-20): sc-410. Western blot analysis of $G_{\alpha\ 13}$ expression in Y79 (**A**), F9 (**B**), KNRK (**C**), U-937 (**D**) and HeLa (**E**) whole cell lysates and mouse liver tissue extract (**F**).



$G_{\alpha\ 13}$ (A-20): sc-410. Western blot analysis of $G_{\alpha\ 13}$ expression in non-transfected: sc-117752 (**A**) and mouse $G_{\alpha\ 13}$ transfected: sc-125358 (**B**) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Tsu, R.C., et al. 1997. Role of amino- and carboxyl-terminal regions of $G_{\alpha\ z}$ in the recognition of G_i-coupled receptors. Mol. Pharmacol. 52: 38-45.
2. Carothers, A.M., et al. 2006. Deficient E-cadherin adhesion in C57BL/6J-Min/+ mice is associated with increased tyrosine kinase activity and RhoA-dependent actomyosin contractility. Exp. Cell Res. 312: 387-400.
3. Sanchez, A.M., et al. 2009. Rapid signaling of estrogen to WAVE1 and moesin controls neuronal spine formation via the actin cytoskeleton. Mol. Endocrinol. 23: 1193-1202.
4. Chaveroux, C., et al. 2009. Identification of a novel amino acid response pathway triggering ATF2 phosphorylation in mammals. Mol. Cell. Biol. 29: 6515-6526.
5. Flamini, M.I., et al. 2009. Differential actions of estrogen and SERMs in regulation of the actin cytoskeleton of endometrial cells. Mol. Hum. Reprod. 15: 675-685.
6. Turm, H., et al. 2010. Protease activated receptor1(PAR1) acts via a novel $G_{\alpha\ 13}$ -dishevelled axis to stabilize β-catenin levels. J. Biol. Chem. 285: 15137-15148.
7. Guilini, C., et al. 2010. Divergent roles of prokineticin receptors in the endothelial cells: angiogenesis and fenestration. Am. J. Physiol. Heart Circ. Physiol. 298: H844-H852.
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