Technical Data Sheet

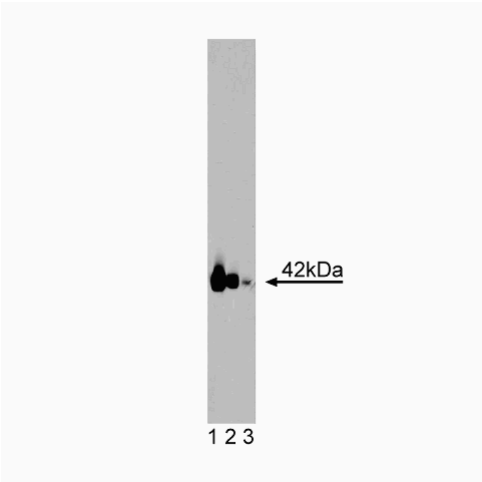
Purified Mouse Anti-Gαq

Product Information

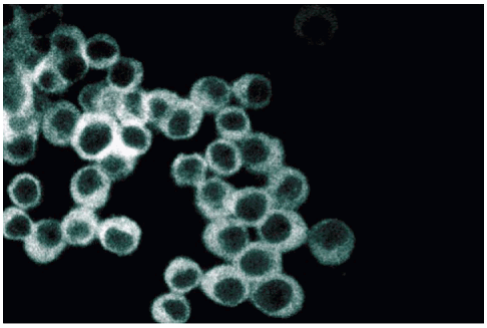
Material Number:	**612704**
Size:	50 µg
Concentration:	250 µg/ml
Clone:	10/GAQ
Immunogen:	Human Gαq aa. 22-31
Isotype:	Mouse IgG1
Reactivity:	QC Tested: Human Tested in Development: Mouse, Rat, Chicken, Dog
Target MW:	42 kDa
Storage Buffer:	Aqueous buffered solution containing BSA, glycerol, and ≤0.09% sodium azide.

Description

The GTP binding regulatory proteins (G proteins) consist of three subunits: α, β, and γ. These heterotrimeric proteins function at membranes to relay signals from cell surface receptors to intracellular effectors. The α subunit is unique for each G protein and contains the site of GTP binding and hydrolysis, as well sites for receptor and effector interactions. The βγ subunit complex interacts directly with receptors and the α subunit. The Gα family includes four families: the Gαs family including Gαs , Gαo1f, and Gαt, the Gαi family including Gαi, Gαo, and Gαz, the Gαq/Gα11 family and the Gα12/13 family. The Gαq protein is 88% homologus with Gα11 and both are widely expressed. These G proteins activate phospholipase C proteins, which induce calcium signaling events. G protein coupled receptors (GPCRs) involved in regulating Wnt signaling activate Gαq, phospholipase Cβ, and induce calcium-dependent activation of calpain. These events promote β-catenin nuclear export and proteolysis. Gαq has also been implicated in metabotropic glutamate receptor signaling. Thus, Gαq isoforms activate phospholipase C proteins in various G-protein coupled receptor pathways.



Western blot analysis of Gαq on a Jurkat cell lysate (Human T-cell leukemia; ATCC TIB-152). *Lane 1: 1:1000, lane 2: 1:2000, lane 3: 1:4000 dilution of the mouse anti-Gαq antibody.*



Immunofluorescence staining of PC12 cells (Rat neuroblastoma; ATCC CRL-1721) treated with NGF. *PC12 cells were serum starved for 1 hour and then stimulated with 100 ng/mL NGF for 10 minutes at 37°C.*

Preparation and Storage

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.
Store undiluted at -20°C.

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Application Notes

Application

Western blot	Routinely Tested
Immunofluorescence	Tested During Development

Recommended Assay Procedure:

Western blot: Please refer to http://www.bdbiosciences.com/pharmingen/protocols/Western_Blotting.shtml

Suggested Companion Products

Catalog Number	Name	Size	Clone
611451	Jurkat Cell Lysate	500 µg	(none)
554002	HRP Goat Anti-Mouse Ig	1.0 ml	(none)
554001	FITC Goat Anti-Mouse Ig	0.5 mg	Polyclonal

Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.
3. Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially explosive deposits in plumbing.
4. Source of all serum proteins is from USDA inspected abattoirs located in the United States.

References

Dutt P, Kjoller L, Giel M, Hall A, Toksoz D. Activated Galphaq family members induce Rho GTPase activation and Rho-dependent actin filament assembly. *FEBS Lett.* 2002; 531(3):565-569.(Biology)

Li G, Iyengar R. Calpain as an effector of the Gq signaling pathway for inhibition of Wnt/beta -catenin-regulated cell proliferation. *Proc Natl Acad Sci U S A.* 2002; 99(20):13254-13259.(Biology)

Strathmann M, Simon MI. G protein diversity: a distinct class of alpha subunits is present in vertebrates and invertebrates. *Proc Natl Acad Sci U S A.* 1990; 87(23):9113-9117.(Biology)