

# ITFG3 (Y-14): sc-136720

## BACKGROUND

Integrins are heterodimers composed of noncovalently associated transmembrane  $\alpha$  and  $\beta$  subunits. The 16  $\alpha$  and eight  $\beta$  subunits heterodimerize to produce more than 20 different receptors. Certain integrins can also bind to soluble ligands such as Fibrinogen, or to counter-receptors on adjacent cells, such as the intracellular adhesion molecules (ICAMs), leading to aggregation of cells. In addition to mediating cell adhesion and cytoskeletal organization, Integrins function as signaling receptors. Signals transduced by Integrins play a role in many biological processes, including cell growth, differentiation, migration and apoptosis. ITFG3 (integrin  $\alpha$  FG-GAP repeat containing 3), also known as C16orf9, is a 552 amino acid single-pass transmembrane protein that contains FG-GAP repeats, a motif commonly found in Integrin proteins. There are two isoforms of ITFG3 that are produced as a result of alternative splicing events.

## REFERENCES

1. Miyamoto, S., et al. 1995. Synergistic roles for receptor occupancy and aggregation in integrin transmembrane function. *Science* 267: 883-885.
2. Clark, E.A. and Brugge, J.S. 1995. Integrins and signal transduction pathways: the road taken. *Science* 268: 233-239.
3. Juliano, R. 1996. Cooperation between soluble factors and integrin-mediated cell anchorage in the control of cell growth and differentiation. *Bioessays* 18: 911-917.
4. Velling, T., et al. 1999. cDNA cloning and chromosomal localization of human  $\alpha(11)$  integrin. A collagen-binding, I domain-containing,  $\beta(1)$ -associated integrin  $\alpha$  chain present in muscle tissues. *J. Biol. Chem.* 274: 25735-25742.
5. Banères, J.L., et al. 2000. A minimized human Integrin  $\alpha(5)\beta(1)$  that retains ligand recognition. *J. Biol. Chem.* 275: 5888-5903.
6. Daniels, R.J., et al. 2001. Sequence, structure and pathology of the fully annotated terminal 2 Mb of the short arm of human chromosome 16. *Hum. Mol. Genet.* 10: 339-352.
7. Shimaoka, M., et al. 2002. Conformational regulation of integrin structure and function. *Annu. Rev. Biophys. Biomol. Struct.* 31: 485-516.
8. Steck, E., et al. 2007. Chondrocyte secreted CRTAC1: a glycosylated extracellular matrix molecule of human articular cartilage. *Matrix Biol.* 26: 30-41.

## CHROMOSOMAL LOCATION

Genetic locus: ITFG3 (human) mapping to 16p13.3; Itfg3 (mouse) mapping to 17 A3.3.

## SOURCE

ITFG3 (Y-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an extracellular domain of ITFG3 of human origin.

## STORAGE

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

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-136720 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

ITFG3 (Y-14) is recommended for detection of ITFG3 isoforms 1 and 2 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); non cross-reactive with ITFG1 or ITFG2.

ITFG3 (Y-14) is also recommended for detection of ITFG3 isoforms 1 and 2 in additional species, including equine and canine.

Suitable for use as control antibody for ITFG3 siRNA (h): sc-93514, ITFG3 siRNA (m): sc-146308, ITFG3 shRNA Plasmid (h): sc-93514-SH, ITFG3 shRNA Plasmid (m): sc-146308-SH, ITFG3 shRNA (h) Lentiviral Particles: sc-93514-V and ITFG3 shRNA (m) Lentiviral Particles: sc-146308-V.

Molecular Weight of ITFG3: 60 kDa.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.