

Grancalcin (G-3): sc-365808

BACKGROUND

Grancalcin is a calcium-binding protein that is especially abundant in human neutrophils. Grancalcin belongs to the penta EF-hand (PEF) subfamily of EF-hand proteins, which also comprises calpain, sorcin, peflin and ALG-2. Grancalcin forms a homodimer through the association of the unpaired EF5 hands. Grancalcin undergoes important conformational changes upon binding of calcium, which subsequently exposes hydrophobic amino acid residues to direct the protein to hydrophobic surfaces. Grancalcin interacts with L-Plastin, a protein known to have actin bundling activity, which suggests that Grancalcin may play a role in the regulation of neutrophil adhesion. Grancalcin is specifically associated with cells originating in the bone marrow, and it is particularly abundant in neutrophils and monocytes, with relatively small amounts detected in lymphocytes.

REFERENCES

1. Boyhan, A., et al. 1992. Molecular cloning and characterization of Grancalcin, a novel EF-hand calcium-binding protein abundant in neutrophils and monocytes. *J. Biol. Chem.* 267: 2928-2933.
2. Teahan, C.G., et al. 1992. Isolation and characterization of Grancalcin, a novel 28 kDa EF-hand calcium-binding protein from human neutrophils. *Biochem. J.* 286: 549-554.
3. Lollike, K., et al. 1995. An ELISA for Grancalcin, a novel cytosolic calcium-binding protein present in leukocytes. *J. Immunol. Methods* 185: 1-8.
4. Jia, J., et al. 2000. Crystal structure of human Grancalcin, a member of the penta-EF-hand protein family. *J. Mol. Biol.* 300: 1271-1281.

CHROMOSOMAL LOCATION

Genetic locus: GCA (human) mapping to 2q24.2.

SOURCE

Grancalcin (G-3) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 21-55 near the N-terminus of Grancalcin of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Grancalcin (G-3) is available conjugated to agarose (sc-365808 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-365808 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365808 PE), fluorescein (sc-365808 FITC), Alexa Fluor® 488 (sc-365808 AF488), Alexa Fluor® 546 (sc-365808 AF546), Alexa Fluor® 594 (sc-365808 AF594) or Alexa Fluor® 647 (sc-365808 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-365808 AF680) or Alexa Fluor® 790 (sc-365808 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-365808 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

APPLICATIONS

Grancalcin (G-3) is recommended for detection of Grancalcin of human origin by Western Blotting (starting dilution 1:100, 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).

Suitable for use as control antibody for Grancalcin siRNA (h): sc-43349, Grancalcin shRNA Plasmid (h): sc-43349-SH and Grancalcin shRNA (h) Lentiviral Particles: sc-43349-V.

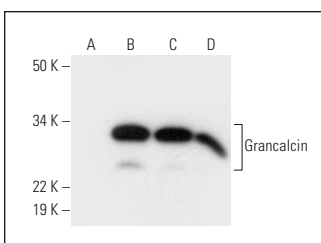
Molecular Weight of Grancalcin: 28 kDa.

Positive Controls: HL-60 whole cell lysate: sc-2209, THP-1 cell lysate: sc-2238 or AML-193 whole cell lysate: sc-364182.

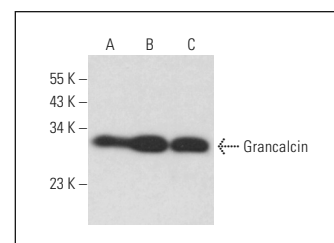
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



Grancalcin (G-3): sc-365808. Western blot analysis of Grancalcin expression in LADMAC (A), AML-193 (B), HL-60 (C) and THP-1 (D) whole cell lysates. Note lack of reactivity with mouse Grancalcin in lane A.



Grancalcin (G-3): sc-365808. Western blot analysis of Grancalcin expression in HL-60 (A), TF-1 (B) and HEL 92.1.7 (C) whole cell lysates.

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.

PROTOCOLS

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