

Calgranulin A (MRP8 7C12/4): sc-53185

BACKGROUND

The family of EF-hand type Ca²⁺-binding proteins includes Calbindin (previously designated vitamin D-dependent Ca²⁺-binding protein), S-100 and , Calgranulins A (also designated MRP8), B (also designated MRP14) and C (S-100 like proteins), and the parvalbumin family members, including parvalbumin and parvalbumin (also designated oncomodulin). Calbindin, S-100 proteins and parvalbumin proteins are each expressed in neural tissues. In addition, S-100 and are present in a variety of other tissues, and Calbindin is present in intestine and kidney. Parvalbumin is also found in fast-contracting/relaxing skeletal muscle fibers and parvalbumin is found in many tumor tissues as well as in the organ of Corti. Calbindin, S-100 proteins and parvalbumins have all been detected in Leydig cells and testis. These proteins are thought to play a role in hormone production and spermatogenesis. Calgranulin is expressed in macrophages and epithelial cells.

REFERENCES

- Pfyffer, G.E., Faivre-Bauman, A., Tixier-Vidal, A., Norman, A.W. and Heizmann, C.W. 1987. Developmental and functional studies of parvalbumin and Calbindin D28K in hypothalamic neurons grown in serum-free medium. *J. Neurochem.* 49: 442-451.
- Kagi, U., Chafouleas, J.G., Norman, A.W. and Heizmann, C.W. 1988. Developmental appearance of the Ca²⁺-binding proteins parvalbumin, Calbindin D-28K, S-100 proteins and calmodulin during testicular development in the rat. *Cell Tissue Res.* 252: 359-365
- Heizmann, C.W. 1988. Calcium-binding proteins of the EF-type. *J. Cardiovasc. Pharmacol.* 5: S30-S37.
- Zimmer, D., Song, W. and Zimmer, W. 1991. Isolation of a rat S-100 α cDNA and distribution of its mRNA in rat tissues. *Brain Res. Bull.* 27: 157-162.
- Rickmann, M. and Wolff, J.R. 1995. S-100 protein expression in subpopulations of neurons of rat brain. *Neuroscience* 67: 977-991.
- Wang, Y. and Christakos, S. 1995. Retinoic acid regulates the expression of the calcium binding protein, Calbindin-D28k. *Mol. Endocrinol.* 9: 1510-1521.
- Muntener, M., Kaser, L., Weber, J. and Berchtold, M.W. 1995. Increase of skeletal muscle relaxation speed by direct injection of parvalbumin cDNA. *Proc. Natl. Acad. Sci. USA* 92: 6504-6508.
- Hitomi, J., Yamaguchi, K., Kikuchi, Y., Nagasaki, K., Maruyama, K. and Kimura, T. 1996. A novel calcium-binding protein in amniotic fluid. CAAF1: its molecular cloning and tissue distribution. *J. Cell Sci.* 109: 805-815.
- Robinson, M.J., Tessier, P., Poulosom, R. and Hogg, N. 2002. The S100 family heterodimer, MRP-8/14, binds with high affinity to heparin and heparan sulfate glycosaminoglycans on endothelial cells. *J. Biol. Chem.* 277: 3658-3665.

CHROMOSOMAL LOCATION

Genetic locus: S100A8 (human) mapping to 1q21.3.

SOURCE

Calgranulin A (MRP8 7C12/4) is a mouse monoclonal antibody raised against recombinant human MRP8.

PRODUCT

Each vial contains 200 μ g IgM in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Available as phycoerythrin (sc-53185 PE) or fluorescein (sc-53185 FITC) conjugates for flow cytometry, 100 tests.

APPLICATIONS

Calgranulin A (MRP8 7C12/4) is recommended for detection of Calgranulin A of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 μ g per 1 x 10⁶ cells).

Suitable for use as control antibody for Calgranulin A siRNA (h): sc-43342, Calgranulin A shRNA Plasmid (h): sc-43342-SH and Calgranulin A shRNA (h) Lentiviral Particles: sc-43342-V.

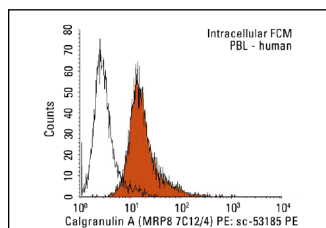
Molecular Weight of Calgranulin A: 10.8 kDa.

Positive Controls: HL-60 whole cell lysate: sc-2209, HL-60 + DMSO cell lysate: sc-24703 or A-431 whole cell lysate: sc-2201.

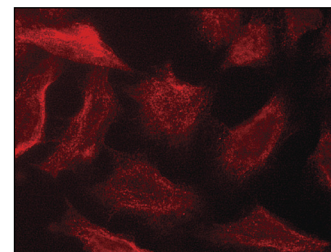
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-mouse IgG-FITC: sc-2010 (dilution range: 1:100-1:400) or goat anti-mouse IgG-TR: sc-2781 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



Calgranulin A (MRP8 7C12/4): sc-53185. Indirect, intracellular FCM analysis of fixed and permeabilized human peripheral blood leukocytes stained with Calgranulin A (MRP8 7C12/4), followed by PE-conjugated goat anti-mouse IgM: sc-3768. Black line histogram represents the isotype control, normal mouse IgM: sc-3881.



Calgranulin A (MRP8 7C12/4): sc-53185. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane localization.

STORAGE

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