

Calgranulin A (MRP8 2C5/4): sc-53184

BACKGROUND

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

REFERENCES

1. Pfyffer, G.E., et al. 1987. Developmental and functional studies of parvalbumin and Calbindin D28K in hypothalamic neurons grown in serum-free medium. *J. Neurochem.* 49: 442-451.
2. Kagi, U., et al. 1988. Developmental appearance of the Ca²⁺-binding proteins parvalbumin, Calbindin D28K, S-100 proteins and calmodulin during testicular development in the rat. *Cell Tissue Res.* 252: 359-365.
3. Heizmann, C.W. 1988. Calcium-binding proteins of the EF-type. *J. Cardiovasc. Pharmacol.* 5: S30-S37.
4. Zimmer, D., et al. 1991. Isolation of a rat S-100 α cDNA and distribution of its mRNA in rat tissues. *Brain Res. Bull.* 27: 157-162.
5. Rickmann, M. and Wolff, J.R. 1995. S-100 protein expression in subpopulations of neurons of rat brain. *Neuroscience* 67: 977-991.
6. Wang, Y. and Christakos, S. 1995. Retinoic acid regulates the expression of the calcium binding protein, Calbindin D28K. *Mol. Endocrinol.* 9: 1510-1521.
7. Muntener, M., et al. 1995. Increase of skeletal muscle relaxation speed by direct injection of parvalbumin cDNA. *Proc. Natl. Acad. Sci. USA* 92: 6504-6508.
8. Hitomi, J., et al. 1996. A novel calcium-binding protein in amniotic fluid. CAAF1: its molecular cloning and tissue distribution. *J. Cell Sci.* 109: 805-815.
9. Robinson, M.J., et al. 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 2C5/4) is a mouse monoclonal antibody raised against recombinant Calgranulin A of human origin.

PRODUCT

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

APPLICATIONS

Calgranulin A (MRP8 2C5/4) is recommended for detection of Calgranulin A of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)].

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.

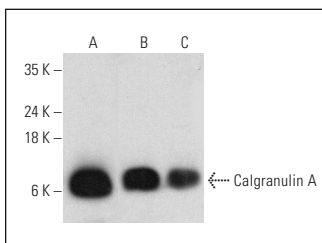
Molecular Weight of Calgranulin A: 11 kDa.

Positive Controls: human spleen extract: sc-363779, A-431 whole cell lysate: sc-2201 or HL-60 whole cell lysate: sc-2209.

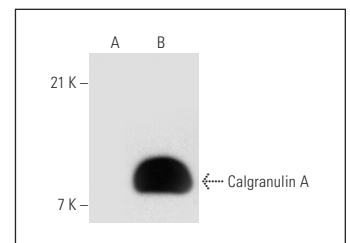
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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).

DATA



Calgranulin A (MRP8 2C5/4): sc-53184. Western blot analysis of Calgranulin A expression in human PBL whole cell lysate (A) and human spleen (B) and human tongue (C) tissue extracts.



Calgranulin A (MRP8 2C5/4): sc-53184. Western blot analysis of Calgranulin A expression in non-transfected (A) and human Calgranulin A transfected (B) CHO 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.



See **Calgranulin A (C-10): sc-48352** for Calgranulin A antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.