

# Calgranulin A/B (27E10): sc-33714

## BACKGROUND

The family of EF-hand type  $\text{Ca}^{2+}$ -binding proteins includes calbindin (previously designated vitamin D-dependent  $\text{Ca}^{2+}$ -binding protein), S-100 $\alpha$  and  $\beta$ , Calgranulin A (also designated MRP8), Calgranulin B (also designated MRP14) and Calgranulin C (S-100 like protein), and the parvalbumin family members, including parvalbumin  $\alpha$  and parvalbumin  $\beta$  (also designated oncomodulin). Calbindin, S-100 proteins and parvalbumin proteins are each expressed in neural tissues. In addition, S-100 $\alpha$  and  $\beta$  are present in a variety of other tissues, and calbindin is present in intestine and kidney. Parvalbumin  $\alpha$  is also found in fast-contracting/relaxing skeletal muscle fibers and parvalbumin  $\beta$  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

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. Heizmann, C.W. 1988. Calcium-binding proteins of the EF-type. *J. Cardiovasc. Pharmacol.* 5: S30-S37.
3. Kagi, U., et al. 1988. Developmental appearance of the  $\text{Ca}^{2+}$ -binding proteins parvalbumin, Calbindin D-28K, S-100 proteins and calmodulin during testicular development in the rat. *Cell Tissue Res.* 252: 359-365.
4. Hogg, N., et al. 1989. Monoclonal antibody 5.5 reacts with p8,14, a myeloid molecule associated with some vascular endothelium. *Eur. J. Immunol.* 19: 1053-1061.

## CHROMOSOMAL LOCATION

Genetic locus: S100A8/S100A9 (human) mapping to 1q21.3.

## SOURCE

Calgranulin A/B (27E10) is a mouse monoclonal antibody raised against monocytes of human origin.

## PRODUCT

Each vial contains 200  $\mu\text{g}$  IgG $\gamma_1$  kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Calgranulin A/B (27E10) is available conjugated to either phycoerythrin (sc-33714 PE) or fluorescein (sc-33714 FITC), 200  $\mu\text{g}/\text{ml}$ , for WB (RGB), IF, IHC(P) and FCM.

## STORAGE

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

## RESEARCH USE

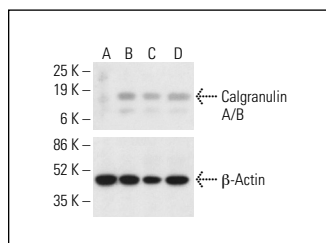
For research use only, not for use in diagnostic procedures.

## APPLICATIONS

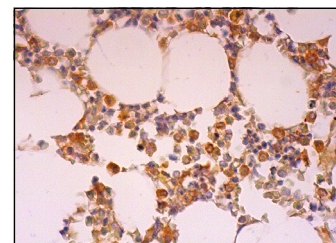
Calgranulin A/B (27E10) is recommended for detection of Calgranulin A/B of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu\text{g}$  per 100-500  $\mu\text{g}$  of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1  $\mu\text{g}$  per  $1 \times 10^6$  cells).

Molecular Weight: 11/14 kDa.

## DATA



Calgranulin A/B (27E10): sc-33714. Western blot analysis of Calgranulin A/B expression in untreated (A) and chemically-treated (B, C, D) SP2/O whole cell lysates.  $\beta$ -Actin (C4) sc-47778 used as loading control. Detection reagent used: m-IgG Fc BP-HRP: sc-525409.



Calgranulin A/B (27E10): sc-33714. Immunoperoxidase staining of formalin fixed, paraffin-embedded human bone marrow tissue showing cytoplasmic and membrane staining of hematopoietic cells.

## SELECT PRODUCT CITATIONS

1. Lood, C., et al. 2011. Protein synthesis of the pro-inflammatory S100A8/A9 complex in plasmacytoid dendritic cells and cell surface S100A8/A9 on leukocyte subpopulations in systemic lupus erythematosus. *Arthritis Res. Ther.* 13: R60.
2. Khammanivong, A., et al. 2013. S100A8/A9 (calprotectin) negatively regulates G $_2$ /M cell cycle progression and growth of squamous cell carcinoma. *PLoS ONE* 8: e69395.
3. Lood, C., et al. 2016. Platelet-derived S100A8/A9 and cardiovascular disease in systemic lupus erythematosus. *Arthritis Rheumatol.* 68: 1970-1980.
4. Wagner, N.B., et al. 2019. Tumor microenvironment-derived S100A8/A9 is a novel prognostic biomarker for advanced melanoma patients and during immunotherapy with anti-PD-1 antibodies. *J. Immunother. Cancer* 7: 343.

## PROTOCOLS

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



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