SANTA CRUZ BIOTECHNOLOGY, INC.

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

BACKGROUND

The family of EF-hand type Ca^{2+}-binding proteins includes calbindin (previously designated vitamin D-dependent Ca^{2+}-binding protein), S-100α and β, Calgranulin A (also designated MRP8), Calgranulin B (also designated MRP14) and Calgranulin C (S-100 like protein), 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-100α 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 parvalbulmins 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 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 µg IgG_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 µg/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

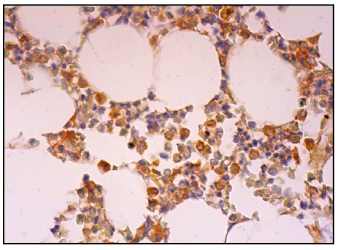
Calgranulin A/B (27E10) is recommended for detection of Calgranulin A/B of human origin by immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 µg per 1 x 10^6 cells).

Molecular Weight: 11/14 kDa.

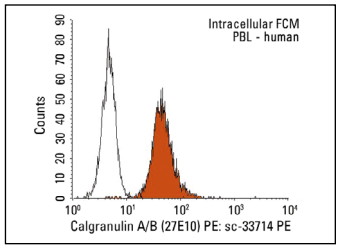
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) 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. 2) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



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.



Calgranulin A/B (27E10) PE: sc-33714 PE. Intracellular FCM analysis of fixed and permeabilized human peripheral blood leukocytes. Black line histogram represents the isotype control, normal mouse IgG_1-PE: sc-2866.

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.

CONJUGATES

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.