SANTA CRUZ BIOTECHNOLOGY, INC.

Calgranulin A (C-10): sc-48352

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The family of EF-hand type Ca^{2+}-binding proteins includes Calbindin (previously designated vitamin D-dependent Ca^{2+}-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 parvalbulmins 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.

CHROMOSOMAL LOCATION

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

SOURCE

Calgranulin A (C-10) is a mouse monoclonal antibody raised against amino acids 1-83 representing full length Calgranulin A 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 (C-10) is available conjugated to agarose (sc-48352 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-48352 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-48352 PE), fluorescein (sc-48352 FITC), Alexa Fluor® 488 (sc-48352 AF488), Alexa Fluor® 546 (sc-48352 AF546), Alexa Fluor® 594 (sc-48352 AF594) or Alexa Fluor® 647 (sc-48352 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-48352 AF680) or Alexa Fluor® 790 (sc-48352 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

Calgranulin A (C-10) is recommended for detection of Calgranulin A 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), immunohistochemistry (including paraffin-embedded sections) (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 Calgranulin A siRNA (h): sc-43342, Calgranulin A shRNA Plasmid (h): sc-43342-SH and Calgranulin A shRNA (h) Lentiviral Particles: sc-43342-V.

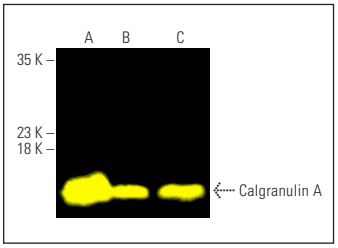
Molecular Weight of Calgranulin A: 11 kDa.

Positive Controls: HL-60 whole cell lysate: sc-2209, human tongue extract: sc-516713 or human spleen extract: sc-363779.

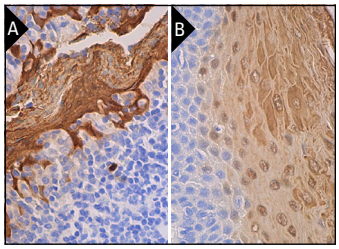
STORAGE

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

DATA



Calgranulin A (C-10): sc-48352. Fluorescent western blot analysis of Calgranulin A expression in human PBL (**A**), human spleen (**B**) and human tongue (**C**) tissue extracts. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgG_1 BP-CFL 488: sc-533661.



Calgranulin A (C-10): sc-48352. Immunoperoxidase staining of formalin fixed, paraffin-embedded human tonsil (**A**) and human esophagus (**B**) tissue showing cytoplasmic and nuclear staining of squamous epithelial cells.

SELECT PRODUCT CITATIONS

1. Champaiboon, C., et al. 2009. Calprotectin S100A9 calcium-binding loops I and II are essential for keratinocyte resistance to bacterial invasion. J. Biol. Chem. 284: 7078-7090.
2. Sorenson, B.S., et al. 2012. IL-1 receptor regulates S100A8/A9-dependent keratinocyte resistance to bacterial invasion. Mucosal Immunol. 5: 66-75.
3. Duan, L., et al. 2013. S100A8 and S100A9 are associated with colorectal carcinoma progression and contribute to colorectal carcinoma cell survival and migration via Wnt/β-catenin pathway. PLoS ONE 8: e62092.
4. Alsagaby, S.A., et al. 2014. Proteomics-based strategies to identify proteins relevant to chronic lymphocytic leukemia. J. Proteome Res. 13: 5051-5062.
5. Fujita, Y., et al. 2018. Regulation of S100A8 stability by RNF5 in intestinal epithelial cells determines intestinal inflammation and severity of colitis. Cell Rep. 24: 3296-3311.e6.
6. Argyris, P.P., et al. 2019. Intracellular calprotectin (S100A8/A9) controls epithelial differentiation and caspase-mediated cleavage of EGFR in head and neck squamous cell carcinoma. Oral Oncol. 95: 1-10.
7. Jacqueline, C., et al. 2020. Inflammation-induced, abnormal expression of self-molecules on epithelial cells: targets for tumor immunoprevention. Cancer Immunol. Res. 8: 1027-1038.
8. Tanaka, Y., et al. 2021. Multicolor imaging of calcium-binding proteins in human kidney stones for elucidating the effects of proteins on crystal growth. Sci. Rep. 11: 16841.
9. Matas-Nadal, C., et al. 2023. Biomarkers found in the tumor interstitial fluid may help explain the differential behavior among keratinocyte carcinomas. Mol. Cell. Proteomics 22: 100547.

RESEARCH USE

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