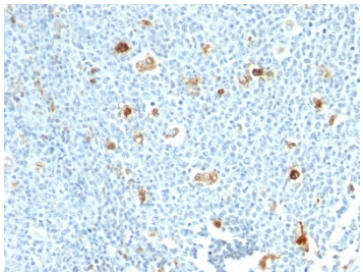
Calprotectin Antibody CPT/1028 / L1H subunit [clone CPT/1028] (V2850)

Catalog No.	Formulation	Size
V2850-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V2850-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V2850SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

Bulk quote request

Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgM, kappa
Clone Name	CPT/1028
Purity	PEG precipitation
UniProt	P06702
Localization	Cytoplasmic
Applications	Immunohistochemistry (FFPE): 1-2ug/ml for 30 min at RT
Limitations	This Calprotectin Antibody CPT/1028 is available for research use only.



Calprotectin Antibody CPT/1028 Immunohistochemistry Analysis. IHC staining of formalin-fixed, paraffin-embedded human tonsil tissue with Calprotectin antibody (CPT/1028). Staining of formalin-fixed tissues requires boiling tissue sections in 10mM Citrate buffer, pH 6.0, for 10-20 min followed by cooling at RT for 20 min.

Description

Calprotectin antibody detects S100A9, a calcium-binding protein that forms a heterodimeric complex with S100A8 to generate calprotectin, a major mediator of innate immune responses and inflammatory regulation. The UniProt recommended name is Protein S100-A9. S100A9 is predominantly expressed in neutrophils, monocytes, and early-stage macrophages, where it contributes to antimicrobial defense, leukocyte recruitment, cytokine signaling, and regulation of inflammatory microenvironments. As a damage-associated molecular pattern protein, S100A9 participates in immune activation during infection, tissue injury, and chronic inflammatory states.

S100A9 belongs to the S100 family of EF-hand calcium-binding proteins and is historically referred to as the L1H subunit of calprotectin in earlier immunology and neutrophil biology literature. In myeloid cells, S100A9 associates with S100A8 to form the calprotectin heterodimer, a complex involved in antimicrobial defense and inflammatory regulation. Calcium binding induces conformational changes in S100A9 that support protein interactions, membrane association, and extracellular release during immune activation or tissue injury. While modern nomenclature favors S100A9, the L1H designation remains relevant in legacy studies of neutrophil biology and inflammatory disease.

The S100A9 gene is located on chromosome 1q21 within the epidermal differentiation complex, a genomic region enriched for immune and barrier-related genes. Expression of S100A9 is tightly regulated and markedly induced under inflammatory conditions. High levels are observed in circulating neutrophils and infiltrating myeloid cells at sites of acute or chronic inflammation. In addition to immune cells, S100A9 expression can be induced in epithelial cells, endothelial cells, and fibroblasts in response to proinflammatory cytokines, oxidative stress, or tissue damage, highlighting its broader role in inflammatory signaling networks.

Functionally, S100A9 participates in leukocyte activation, migration, and immune amplification. Extracellular S100A9 can interact with pattern recognition receptors such as Toll-like receptor 4 and the receptor for advanced glycation end products, contributing to propagation of inflammatory signaling cascades. These interactions promote cytokine release, endothelial activation, and recruitment of additional immune cells. Intracellularly, S100A9 influences cytoskeletal organization and cell adhesion dynamics, supporting rapid deployment of neutrophils and monocytes to sites of infection or injury.

S100A9 is widely studied as a biomarker of inflammation. Elevated calprotectin levels are detected in serum, synovial fluid, cerebrospinal fluid, and fecal samples during inflammatory disease. In gastrointestinal research, fecal calprotectin serves as a noninvasive indicator of intestinal inflammation. Increased S100A9 expression has also been reported in rheumatoid arthritis, inflammatory bowel disease, psoriasis, cystic fibrosis, and infectious diseases, making it a valuable marker for monitoring inflammatory burden and disease activity in both clinical and experimental settings.

In cancer biology, S100A9 has been linked to tumor-associated inflammation and the function of myeloid-derived suppressor cells. Elevated S100A9 within the tumor microenvironment can influence immune suppression, angiogenesis, and tumor progression depending on context. Ongoing research continues to investigate how S100A9-mediated signaling shapes interactions between immune cells and malignant tissues, particularly in inflammation-driven cancers.

Calprotectin antibody supports investigation of innate immune activation, inflammatory signaling, and myeloid cell biology. It enables analysis of S100A9 expression patterns in tissues and disease models of inflammation. This antibody is validated for use in relevant research applications to detect S100A9 expression. NSJ Bioreagents provides Calprotectin antibody reagents suitable for studies of immunology, inflammatory disease, infectious biology, and immune-mediated pathology.

MRP14, also known as S100A9 or calgranulin B, is a calcium-binding protein involved in neutrophil activation, innate immune signaling, and calprotectin formation. For an additional antibody targeting this inflammatory regulator, with western blot, immunohistochemistry, immunofluorescence, flow cytometry, and knockout validation data, see our S100A9 Antibody page.

Application Notes

Optimal dilution of the Calprotectin Antibody CPT/1028 should be determined by the researcher.

Immunogen

Recombinant human Calprotectin L1H (heavy subunit) was used as the immunogen for the Calprotectin antibody.

Storage

Store the Calprotectin antibody at 2-8oC (with azide) or aliquot and store at -20oC or colder (without azide).

Alternate Names

Calgranulin B antibody, S100 calcium-binding protein A9 antibody, Myeloid-related protein 14 antibody, Migration inhibitory factor-related protein 14 antibody, Calprotectin L1H antibody, Leukocyte L1 complex heavy chain antibody

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