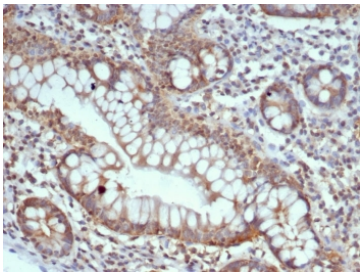
Calbindin D9K Antibody / Intestinal Calcium Absorption Marker Antibody [clone S100G/7516] (V5344)

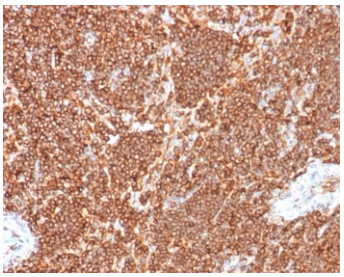
Catalog No.	Formulation	Size
V5344-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	100 ug
V5344-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	20 ug
V5344SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

Bulk quote request

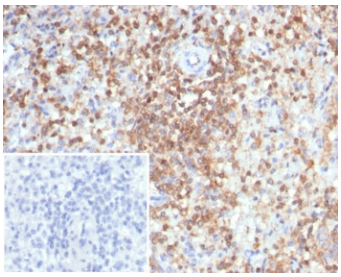
Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG2, kappa
Clone Name	S100G/7516
Purity	Protein A/G affinity
UniProt	P29377
Localization	Cytoplasm
Applications	Immunohistochemistry (FFPE) : 1-2ug/ml for 30 min at RT
Limitations	This Calbindin D9K Antibody / Intestinal Calcium Absorption Marker Antibody is available for research use only.



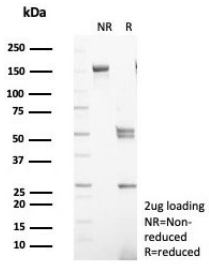
Calbindin D9K Antibody Small Intestine Tissue IHC. Immunohistochemistry analysis of Calbindin D9K S100G expression in FFPE human small intestine tissue using Calbindin D9K antibody clone S100G/7516. Strong cytoplasmic staining is observed in intestinal epithelial cells lining the villi, consistent with the role of this calcium-binding protein in transcellular calcium absorption, while underlying stromal cells show minimal signal. HIER: boil tissue sections in pH 9 10mM Tris with 1mM EDTA for 20 min and allow to cool before testing.



Calbindin D9K Antibody Lymph Node Tissue IHC. Immunohistochemistry analysis of Calbindin D9K S100G expression in FFPE human lymph node tissue using Calbindin D9K antibody clone S100G/7516. Predominantly cytoplasmic staining is observed across lymphoid cell populations, with diffuse signal throughout the nodal architecture, while stromal elements show comparatively lower staining intensity. This pattern reflects broader cellular expression beyond classical absorptive epithelia and may indicate context-dependent regulation of calcium-binding proteins in immune-related tissues. HIER: boil tissue sections in pH 9 10mM Tris with 1mM EDTA for 20 min and allow to cool before testing.



Calbindin D9K Antibody Spleen Tissue IHC. Immunohistochemistry analysis of Calbindin D9K S100G expression in FFPE human spleen tissue using Calbindin D9K antibody clone S100G/7516. Diffuse cytoplasmic staining is observed across splenic cell populations, with stronger signal in lymphoid regions, while background staining remains low. The negative control inset using PBS in place of primary antibody confirms specificity with absence of detectable signal. HIER: boil tissue sections in pH 9 10mM Tris with 1mM EDTA for 20 min and allow to cool before testing.



SDS-PAGE analysis of purified, BSA-free Calbindin D9K antibody (clone S100G/7516) as confirmation of integrity and purity.

Description

Calbindin D9K (S100G) is a small cytoplasmic calcium-binding protein encoded by the S100G gene that functions as a central mediator of transcellular calcium transport in epithelial tissues. Calbindin D9K Antibody is used to study this protein, which is highly expressed in intestinal enterocytes, renal distal tubules, and placental epithelium where active calcium flux is required to maintain systemic mineral balance and skeletal integrity. As a specialized member of the S100 family of EF-hand calcium-binding proteins, Calbindin D9K is uniquely adapted for intracellular calcium buffering and transport rather than signaling or cytoskeletal regulation.

Calbindin D9K antibody, also known as S100G antibody or calcium binding protein intestinal antibody, recognizes a protein that operates as a high-affinity intracellular calcium carrier. Following calcium entry through apical channels such as TRPV6, Calbindin D9K binds calcium ions and facilitates their diffusion across the cytoplasm toward basolateral export systems including plasma membrane Ca2+-ATPases and sodium-calcium exchangers. This tightly coordinated process supports efficient dietary calcium absorption while preventing intracellular calcium overload, making Calbindin D9K essential for epithelial cell function during periods of active nutrient uptake.

Expression of Calbindin D9K is strongly induced by vitamin D signaling through the vitamin D receptor, positioning it as a key downstream effector of endocrine regulation of calcium metabolism. In intestinal tissues, increased expression of Calbindin D9K correlates with enhanced calcium absorption efficiency, while in renal tissues it contributes to calcium reabsorption in distal nephron segments. This hormone-responsive expression pattern makes it a valuable marker for studying vitamin D-dependent pathways, epithelial transport physiology, and nutrient-responsive gene regulation.

Clone S100G/7516 antibody is designed to detect Calbindin D9K expression in research models focused on intestinal calcium absorption and epithelial differentiation. The restricted and functionally relevant expression pattern of Calbindin D9K enhances its utility as a marker for absorptive epithelial cell populations, particularly in gastrointestinal tissues where

calcium transport is tightly regulated. Its consistent cytoplasmic localization provides clear identification of calcium-transporting cells and supports studies of epithelial specialization and functional zonation.

Structurally, Calbindin D9K contains two EF-hand calcium-binding motifs that enable reversible calcium binding without initiating downstream signaling cascades. Unlike other S100 proteins that participate in inflammatory or cytoskeletal processes, Calbindin D9K primarily functions as a mobile calcium buffer that maintains intracellular calcium gradients during transcellular transport. It may also transiently associate with membrane transport machinery to facilitate directional calcium movement across epithelial cells.

Dysregulation of Calbindin D9K expression has been linked to impaired calcium absorption, vitamin D deficiency, and metabolic bone disorders such as osteoporosis. Its role in mineral metabolism connects it to broader physiological processes including bone remodeling and endocrine regulation. This Calbindin D9K Antibody supports research into calcium transport mechanisms, epithelial physiology, and hormone-regulated pathways central to maintaining calcium homeostasis.

This Calbindin D9K antibody is part of a broader antibody panel offered by NSJ Bioreagents.

Application Notes

Optimal dilution of the Calbindin D9K Antibody / Intestinal Calcium Absorption Marker Antibody should be determined by the researcher.

Immunogen

Recombinant full-length human protein was used as the immunogen for the Calbindin D9K antibody.

Storage

Aliquot the Calbindin D9K antibody and store frozen at -20oC or colder. Avoid repeated freeze-thaw cycles.

Alternate Names

Calbindin D9K antibody, S100G antibody, Calcium binding protein intestinal antibody, CABP9K antibody, Vitamin D dependent calcium binding protein antibody