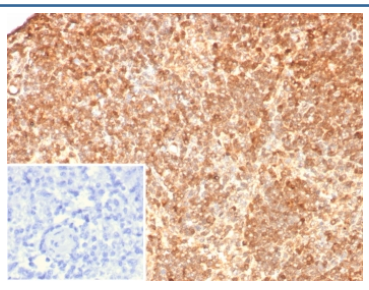
Calbindin D9K Antibody / Vitamin D-Regulated Calcium Binding Protein Antibody [clone S100G/7517] (V5345)

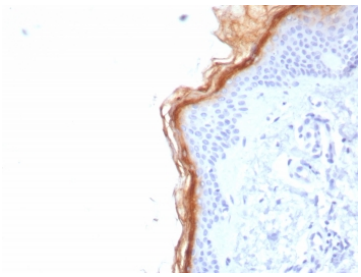
Catalog No.	Formulation	Size
V5345-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	100 ug
V5345-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	20 ug
V5345SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

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/7517
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 / Vitamin D-Regulated Calcium Binding Protein Antibody is available for research use only.



Calbindin D9K Antibody Human Lymph Node IHC. Immunohistochemistry analysis of Calbindin D9K S100G expression in FFPE human lymph node tissue using Calbindin D9K antibody clone S100G/7517. Diffuse cytoplasmic staining is observed across lymphoid cell populations, with strong signal throughout nodal regions, consistent with the presence of this vitamin D-regulated calcium-binding protein in immune-associated tissues, 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.



Calbindin D9K Antibody Skin Tissue IHC. Immunohistochemistry analysis of Calbindin D9K S100G expression in FFPE human skin tissue using Calbindin D9K antibody clone S100G/7517. Prominent cytoplasmic staining is observed in epidermal keratinocytes, with stronger signal along the superficial epithelial layers, consistent with the role of this vitamin D-regulated calcium-binding protein in epidermal differentiation and calcium balance, while underlying dermal structures show minimal staining. HIER: boil tissue sections in pH 9 10mM Tris with 1mM EDTA for 20 min and allow to cool before testing.

Description

Calbindin D9K (S100G) is a small cytoplasmic calcium-binding protein encoded by the S100G gene that serves as a key effector of vitamin D-driven calcium homeostasis across epithelial and tissue contexts. Calbindin D9K Antibody is used to study this protein, which is classically enriched in calcium-transporting tissues such as the small intestine and kidney, but is also detected in additional tissues including skin and lymphoid compartments where intracellular calcium buffering contributes to cellular stability and function. As a specialized member of the S100 family of EF-hand calcium-binding proteins, Calbindin D9K is structurally and functionally adapted for calcium handling rather than signal transduction.

Calbindin D9K antibody, also known as S100G antibody or vitamin D dependent calcium binding protein antibody, recognizes a protein whose expression is tightly regulated by the vitamin D receptor pathway. Upon activation of this endocrine signaling axis, transcription of S100G is significantly upregulated, increasing the cellular capacity for calcium binding and transport. This strong regulatory link positions Calbindin D9K as a reliable molecular readout of vitamin D activity and a useful marker for studying hormone-responsive epithelial and tissue biology.

Functionally, Calbindin D9K binds calcium ions through its EF-hand motifs and operates as a high-affinity intracellular shuttle that facilitates calcium movement while preventing cytotoxic accumulation of free calcium. In absorptive epithelia, this enables efficient transcellular calcium transport by coupling apical calcium entry to basolateral extrusion mechanisms. In non-classical tissues such as skin and lymphoid organs, its buffering capacity supports localized calcium regulation, contributing to processes such as epithelial differentiation, barrier function, and immune cell stability where controlled calcium dynamics are required.

Clone S100G/7517 antibody is designed to detect Calbindin D9K expression in research applications focused on vitamin D signaling, calcium homeostasis, and tissue-specific regulation of calcium-binding proteins. Its detection across diverse tissue types supports broader investigation of calcium-regulated biology beyond strictly absorptive epithelia, making it valuable for studies examining endocrine regulation, cellular differentiation, and context-dependent expression patterns. The observed cytoplasmic localization aligns with its role as a mobile calcium-binding protein operating within intracellular transport pathways.

At the structural level, Calbindin D9K contains two EF-hand calcium-binding domains that enable rapid, reversible calcium binding and release. Unlike calcium-binding proteins that initiate downstream signaling cascades, Calbindin D9K primarily functions as a buffering and transport intermediary, maintaining intracellular calcium gradients required for controlled cellular activity. Its ability to dynamically bind calcium without triggering signaling responses is essential for sustaining calcium flux under physiological conditions.

Dysregulation of Calbindin D9K expression has been associated with impaired calcium absorption, vitamin D deficiency, and metabolic bone disorders such as osteoporosis. Its broader expression profile also suggests roles in tissue-specific calcium regulation beyond classical transport systems, particularly in contexts where vitamin D signaling influences cellular function. This Calbindin D9K Antibody supports research into hormone-regulated calcium dynamics, epithelial biology, immune tissue context, and the molecular mechanisms underlying 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 / Vitamin D-Regulated Calcium Binding Protein Antibody should be determined by the researcher.

Immunogen

A recombinant partial protein sequence (within amino acids 1-79) from the human protein was used as the immunogen for the Calbindin D9Kantibody.

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, Vitamin D dependent calcium binding protein antibody, CABP9K antibody, Calcium binding protein intestinal antibody

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