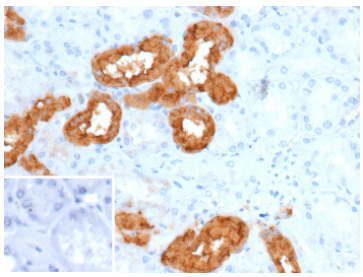
D28K Antibody / CALB1 [clone rCALB1/9805] (V6022)

Catalog No.	Formulation	Size
V6022-100UG	0.2 mg/ml in 1X PBS with 0.05% BSA, 0.05% sodium azide	100 ug
V6022-20UG	0.2 mg/ml in 1X PBS with 0.05% BSA, 0.05% sodium azide	20 ug
V6022SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

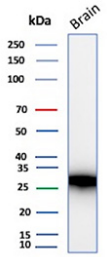
Recombinant MOUSE MONOCLONAL

Bulk quote request

Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Recombinant Mouse Monoclonal
Isotype	Mouse IgG1, kappa
Clone Name	rCALB1/9805
UniProt	P05937
Localization	Cytoplasm
Applications	Immunohistochemistry (FFPE) : 1-2ug/ml Western Blot : 2-4ug/ml
Limitations	This D28K/CALB1 antibody is available for research use only.



Immunohistochemistry analysis of D28K / CALB1 antibody (clone rCALB1/9805) in human kidney tissue. Formalin-fixed, paraffin-embedded human kidney demonstrates strong cytoplasmic HRP-DAB brown staining in subsets of renal tubular epithelial cells, consistent with Calbindin expression, while adjacent interstitial and glomerular regions are largely negative. The inset shows PBS used in place of primary antibody as a negative control, confirming absence of specific staining. Heat-induced epitope retrieval was performed by heating tissue sections in 10 mM Tris with 1 mM EDTA, pH 9.0, for 45 minutes at 95oC followed by cooling at room temperature for 20 minutes prior to staining.



Western blot analysis of D28K / CALB1 antibody (clone rCALB1/9805) in human brain tissue lysate. A single prominent band is detected at approximately 28 kDa, corresponding to the predicted molecular weight of Calbindin-D28k. The observed band supports specific detection of endogenous CALB1 protein in human brain under reducing conditions.

Description

D28K antibody, also known as CALB1 antibody, recognizes D28K, a widely used abbreviated name for the calcium-binding protein Calbindin 1 encoded by the CALB1 gene. The D28K designation reflects the approximate 28 kDa molecular size of this EF-hand calcium-binding protein and is commonly used in western blot figures, neuronal marker studies, and calcium signaling research. D28K functions as an intracellular calcium buffer that modulates the amplitude and kinetics of calcium transients, thereby shaping downstream signaling responses in excitable and secretory cells.

D28K is a member of the calbindin subfamily within the larger EF-hand protein family and contains six EF-hand motifs, four of which are capable of binding Ca2+ with high affinity. By reversibly binding calcium ions, D28K influences intracellular diffusion of calcium and limits cytotoxic calcium overload. This buffering activity is particularly important in cells exposed to rapid calcium flux, such as neurons and endocrine cells. Altered expression of CALB1 has been associated with dysregulated calcium homeostasis in neurodegenerative disorders, where reduced D28K levels may contribute to increased cellular susceptibility to stress and excitotoxic injury.

In the nervous system, D28K expression is frequently examined in the context of neuronal circuit mapping, interneuron characterization, and studies of synaptic plasticity. Outside the brain, CALB1 expression is detected in kidney distal tubular epithelium, intestinal absorptive cells, and pancreatic islets, where it supports calcium transport and hormone secretion processes. Because D28K is often cited in abbreviated form in primary research articles and figure legends, D28K antibody provides a convenient and literature-consistent terminology for investigators working with calcium-binding protein pathways. Clone rCALB1/9805 is a recombinant mouse monoclonal antibody generated through defined sequence expression, supporting lot-to-lot consistency and reproducibility in research applications focused on calcium regulation and cell type identification.

Application Notes

1. Optimal dilution of the D28K/CALB1 antibody should be determined by the researcher.

2. This D28K/CALB1 antibody is recombinantly produced by expression in CHO cells.

Immunogen

A recombinant fragment corresponding human CALB1 protein was used as the immunogen for the D28K/CALB1 antibody.

Storage

CALB1/Vitamin D-dependent calcium-binding protein antibody with sodium azide - store at 2 to 8oC; antibody without sodium azide - store at -20 to -80oC.