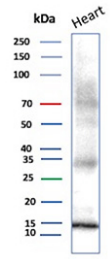
PV Antibody / Parvalbumin alpha [clone rPVALB/9839] (V5982)

Catalog No.	Formulation	Size
V5982-100UG	0.2 mg/ml in 1X PBS with 0.05% BSA, 0.05% sodium azide	100 ug
V5982-20UG	0.2 mg/ml in 1X PBS with 0.05% BSA, 0.05% sodium azide	20 ug
V5982SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

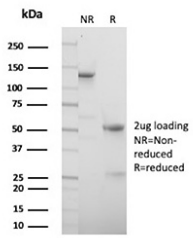
Recombinant MOUSE MONOCLONAL

Bulk quote request

Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Recombinant Mouse Monoclonal
Isotype	Mouse IgG1, kappa
Clone Name	rPVALB/9839
UniProt	P20472
Localization	Nucleus, Cytoplasm, Cell junctions
Applications	Western Blot : 2-4ug/ml
Limitations	This PV/Parvalbumin alpha antibody is available for research use only.



Western blot analysis of PV/Parvalbumin alpha antibody (clone rPVALB/9839) in human heart tissue lysate. A distinct immunoreactive band is observed at approximately 12 kDa, consistent with the predicted molecular weight of Parvalbumin based on its amino acid sequence. The band migrates in the expected low molecular weight range for this small cytosolic EF-hand calcium-binding protein. Faint higher molecular weight background signal may be visible above 25 kDa; however, the predominant band corresponds to the predicted molecular weight, supporting specific detection of Parvalbumin in human heart tissue.



SDS-PAGE Analysis of Purified PV/Parvalbumin alpha antibody (rPVALB/9839). Confirmation of Purity and Integrity of Antibody.

Description

PV antibody, also known as Parvalbumin alpha antibody, recognizes a small cytosolic EF-hand calcium-binding protein commonly referred to as Parvalbumin. Encoded by the human PVALB gene on chromosome 22q12.3, Parvalbumin alpha is predominantly localized to the cytoplasm and is highly expressed in fast-twitch skeletal muscle fibers and specific subsets of inhibitory GABAergic interneurons in the cerebral cortex, hippocampus, and cerebellum. PV antibody is widely used as a marker for fast-spiking interneurons that regulate network synchronization and inhibitory tone in the central nervous system.

Parvalbumin alpha functions primarily as an intracellular calcium buffer. It contains three EF-hand motifs, two of which are functional calcium-binding domains that bind calcium with high affinity. By rapidly sequestering calcium following depolarization, Parvalbumin accelerates muscle relaxation in fast-twitch fibers and shapes the timing and precision of synaptic transmission in inhibitory neurons. Expression of Parvalbumin increases during postnatal development as inhibitory circuits mature, making PV antibody valuable in studies of neurodevelopment and circuit refinement.

In skeletal muscle, Parvalbumin levels correlate with fiber type specification and metabolic specialization, with enrichment in glycolytic fast-contracting fibers. Within the brain, Parvalbumin-positive interneurons often co-localize with synaptic proteins involved in vesicle release and cytoskeletal organization, supporting their specialized role in high-frequency firing. Altered Parvalbumin expression or interneuron density has been associated with neurological and psychiatric conditions including epilepsy, schizophrenia, and autism spectrum disorders, where impaired inhibitory signaling contributes to cortical dysfunction.

Clone rPVALB/9839 is a recombinant monoclonal antibody generated by controlled expression systems to promote lot-to-lot consistency and long-term supply stability. A PV antibody such as clone rPVALB/9839 is suitable for detecting Parvalbumin alpha expression in studies of neural circuitry, muscle physiology, and disease-related alterations in calcium-buffering proteins.

Application Notes

Optimal dilution of the PV/Parvalbumin alpha antibody should be determined by the researcher.

Immunogen

A recombinant fragment (around amino acids 1-110) of human PVALB protein (exact sequence is proprietary) was used as the immunogen for the PV/Parvalbumin alpha antibody.

Storage

PV/Parvalbumin alpha antibody with sodium azide - store at 2 to 8oC; antibody without sodium azide - store at -20 to -80oC.