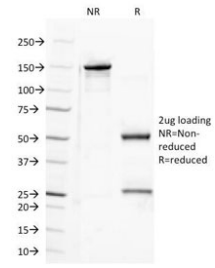
Semaphorin-4D Antibody / SEMA4D / CD100 [clone A8] (V2452)

Catalog No.	Formulation	Size
V2452-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V2452-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V2452SAF-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, Mouse
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG1, kappa
Clone Name	A8
Purity	Protein G affinity chromatography
UniProt	Q92854
Localization	Cell surface
Applications	Functional studies (order BSA/sodium azide-free format) Flow cytometry: 0.5-1ug/10^6 cells Immunofluorescence: 0.5-1ug/ml
Limitations	This Semaphorin-4D antibody is available for research use only.



SDS-PAGE Analysis of Purified, BSA-Free Semaphorin-4D Antibody (clone A8). Confirmation of Integrity and Purity of the Antibody.

Description

Semaphorin-4D antibody (clone A8) detects Semaphorin-4D, a multifunctional transmembrane protein that regulates neural connectivity, immune activation, and tumor angiogenesis. The UniProt recommended name is Semaphorin-4D (SEMA4D). Also referred to as CD100, this class 4 semaphorin belongs to a conserved family of signaling molecules that control cytoskeletal dynamics and cellÃ¢Â€Â“cell communication through receptor-mediated signaling events.

Functionally, Semaphorin-4D antibody identifies an ~863-amino-acid glycoprotein composed of a sema domain, an Ig-like region, and a short intracellular tail that enables signal propagation. In the nervous system, SEMA4D promotes axon guidance, dendritic spine organization, and synaptic refinement. In the immune system, it acts as a costimulatory molecule for T and B cells, enhancing cytokine production and cell survival. The protein also exists in a soluble form generated by proteolytic shedding, which influences angiogenesis and tumor vascular remodeling through interactions with Plexin-B1 on endothelial and cancer cells.

The SEMA4D gene is located on chromosome 9q22.2 and is widely expressed in neurons, immune cells, and epithelial tissues. Expression is rapidly upregulated during inflammation, tissue injury, or tumor growth, reflecting its dual role as both a developmental guidance cue and a signaling mediator in adult physiology. In vascular endothelium, SEMA4D signaling coordinates cell adhesion and migration, supporting blood vessel formation and tissue repair.

Aberrant expression of SEMA4D contributes to pathological conditions such as autoimmune disorders, neurodegeneration, and malignancy. Elevated SEMA4D levels in solid tumors promote angiogenesis, metastasis, and immune evasion by modifying the tumor microenvironment. In contrast, regulated expression in the nervous system facilitates axonal recovery following injury. Research using Semaphorin-4D antibody (clone A8) supports studies in neurodevelopmental signaling, immune receptor interactions, and tumor biology.

Clone A8 is a mouse monoclonal antibody that recognizes an extracellular domain epitope of human Semaphorin-4D (CD100). It has been referenced in peer-reviewed studies investigating SEMA4D-mediated immune signaling, endothelial activation, and tumor angiogenesis. The clone has been applied successfully in immunohistochemistry, flow cytometry, and cell-based assays to identify both membrane-bound and soluble forms of the protein. Its specificity and reproducibility make it suitable for examining SEMA4D expression patterns in human tissue and cell models.

Semaphorin-4D antibody (clone A8) is validated for use in relevant research applications to investigate axon guidance, immune communication, and tumor vascular signaling. NSJ Bioreagents provides this antibody reagent optimized for research in angiogenesis, neuroimmunology, and cell signaling pathways.

Application Notes

Optimal dilution of the Semaphorin-4D antibody to be determined by the researcher.

Immunogen

PHA stimulated human peripheral blood lymphocytes were used as the immunogen for the Semaphorin-4D antibody.

Storage

Store the Semaphorin-4D antibody at 2-8oC (with azide) or aliquot and store at -20oC or colder (without azide).

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