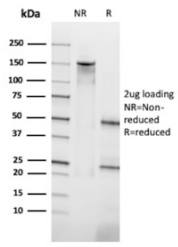
PADI4 Antibody / Protein-arginine deiminase type-4 [clone IPO-M6] (V5902)

Catalog No.	Formulation	Size
V5902-100UG	0.2 mg/ml in 1X PBS with 0.05% BSA, 0.05% sodium azide	100 ug
V5902-20UG	0.2 mg/ml in 1X PBS with 0.05% BSA, 0.05% sodium azide	20 ug
V5902SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

Bulk quote request

Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG1, kappa
Clone Name	IPO-M6
UniProt	Q9UM07
Localization	Cytoplasm
Applications	Flow Cytometry : 1-2ug/million cells
Limitations	This PADI4/Protein-arginine deiminase type-4 antibody is available for research use only.



SDS-PAGE Analysis of purified PADI4/Protein-arginine deiminase type-4 antibody (clone IPO-M6). Confirmation of Purity and Integrity of Antibody.

Description

PADI4 antibody recognizes Protein-arginine deiminase type-4, a calcium-dependent enzyme that catalyzes the post-translational conversion of arginine residues to citrulline in target proteins. Protein-arginine deiminase type-4 is also widely referred to as PAD4 and peptidyl arginine deiminase 4 in the literature. PADI4 is predominantly localized to the nucleus and plays a key role in chromatin remodeling through citrullination of histones, influencing transcriptional regulation and epigenetic control. This enzymatic activity links PADI4 antibody research to fundamental studies of gene

expression, cell differentiation, and inflammatory signaling pathways.

PADI4 is encoded by the PADI4 gene and belongs to the peptidyl arginine deiminase family, whose members require calcium for activation and share conserved catalytic domains. Among PAD family proteins, Protein-arginine deiminase type-4 is unique for its strong nuclear localization and its ability to directly modify histones such as histone H3 and H4. PADI4 antibody is therefore frequently used in studies examining histone citrullination and its impact on transcriptional repression or activation in immune cells and other cell types. High expression has been reported in granulocytes and other myeloid-lineage cells, supporting its relevance in innate immune biology.

In disease-focused research, Protein-arginine deiminase type-4 has attracted significant attention due to its involvement in autoimmune and inflammatory conditions. PADI4-mediated citrullination generates neoepitopes that are central to autoantibody formation, particularly in rheumatoid arthritis, where PAD4 activity is closely linked to disease susceptibility and progression. PADI4 antibody supports investigations into protein citrullination, autoantigen formation, and neutrophil extracellular trap biology, where PAD4-dependent chromatin decondensation is a critical mechanistic step.

Beyond autoimmunity, PADI4 has also been studied in cancer biology, where altered citrullination patterns may influence tumor-associated gene expression and immune interactions. PADI4 antibody can be applied to research exploring epigenetic dysregulation, inflammatory microenvironments, and PAD enzyme activity in malignant and non-malignant tissues. Clone IPO-M6 is designed to recognize Protein-arginine deiminase type-4 and is suitable for detecting PADI4 expression in relevant research applications.

Application Notes

Optimal dilution of the PADI4/Protein-arginine deiminase type-4 antibody should be determined by the researcher.

Immunogen

Leukemia HL-60 cells were used as the immuongen for the PADI4/Protein-arginine deiminase type-4 antibody.

Storage

PADI4/Protein-arginine deiminase type-4 antibody with sodium azide - store at 2 to 8oC; antibody without sodium azide - store at -20 to -80oC.