Anti-PADI4 Antibody [PSH01-33]

HA721657

Product Type:	Recombinant Rabbit monoclonal IgG, primary antibodies
Species reactivity:	Human, Mouse, Rat
Applications:	WB, IHC-P
Molecular Wt:	Predicted band size: 74 kDa
Clone number:	PSH01-33

Description: Protein-arginine deiminase type-4, is a human protein which in humans is encoded by the PADI4 gene. The protein as an enzyme, specifically protein-arginine deiminase, a type of hydrolase. The protein is 663 amino acids long with a molecular weight of 74,095 Da. This gene is a member of a gene family which encodes enzymes responsible for the conversion of arginine to citrulline residues (citrullination). This gene may play a role in granulocyte and macrophage development leading to inflammation and immune response. PADI4 plays a role in the epigenetics, the deimination of arginines on histones H3 and H4 can act antagonistically to arginine methylation. The protein may be found in oligomers and binds 5 calcium ions per subunit. It is normally found in the cytoplasm, nucleus and in cytoplasmic granules of eosinophils and neutrophils. It is not expressed in peripheral monocytes or lymphocytes. It is also expressed in rheumatoid arthritis synovial tissues.

Immunogen: Recombinant protein within human PADI4 aa 1-663 / 663.

Positive control: Human spleen tissue, mouse spleen tissue, rat lung tissue.

Subcellular location: Cytoplasm, Nucleus, Cytoplasmic granule.

Database links: SwissProt: Q9UM07 Human | Q9Z183 Mouse | O88807 Rat

Recommended Dilutions:

WB	1:1,000
IHC-P	1:200-1:1,000

Storage Buffer: PBS (pH7.4), 0.1% BSA, 40% Glycerol. Preservative: 0.05% Sodium Azide.

Storage Instruction: Shipped at 4℃. Store at +4℃ short term (1-2 weeks). It is recommended to aliquot into single-use upon delivery. Store at -20℃ long term.

Purity: Protein A affinity purified.

Images

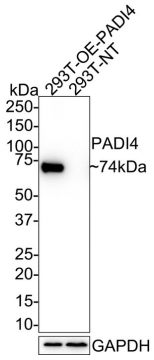

Fig1: Western blot analysis of PADI4 on different lysates with Rabbit anti-PADI4 antibody (HA721657) at 1/1,000 dilution.

Lane 1: 293T overexpress PADI4 whole cell lysate
Lane 2: 293T whole cell lysate

Lysates/proteins at 20 µg/Lane.

Predicted band size: 74 kDa
Observed band size: 74 kDa

Exposure time: 1 minute;

4-20% SDS-PAGE gel.

Proteins were transferred to a PVDF membrane and blocked with 5% NFDM/TBST for 1 hour at room temperature. The primary antibody (HA721657) at 1/1,000 dilution was used in 5% NFDM/TBST at room temperature for 2 hours. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1:100,000 dilution was used for 1 hour at room temperature.

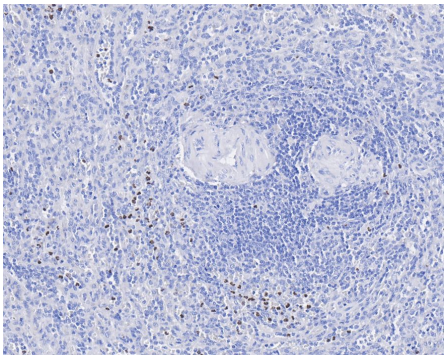

Fig2: Immunohistochemical analysis of paraffin-embedded human spleen tissue with Rabbit anti-PADI4 antibody (HA721657) at 1/1,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0) (high pressure) for 2 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (HA721657) at 1/1,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

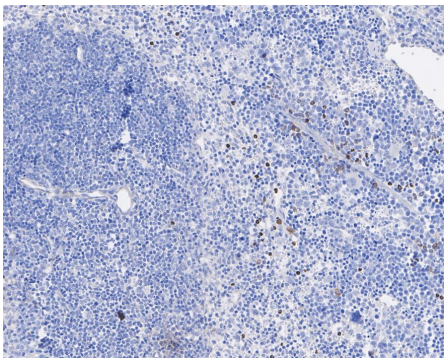

Fig3: Immunohistochemical analysis of paraffin-embedded mouse spleen tissue with Rabbit anti-PADI4 antibody (HA721657) at 1/200 dilution.

The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0) (high pressure) for 2 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (HA721657) at 1/200 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

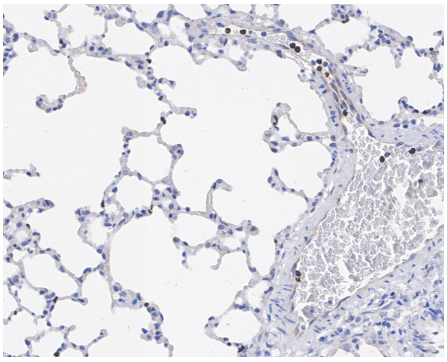

Fig4: Immunohistochemical analysis of paraffin-embedded rat lung tissue with Rabbit anti-PADI4 antibody (HA721657) at 1/200 dilution.

The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0) (high pressure) for 2 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (HA721657) at 1/200 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

Note: All products are "FOR RESEARCH USE ONLY AND ARE NOT INTENDED FOR DIAGNOSTIC OR THERAPEUTIC USE".

Background References

1. Cheng Y et al. The regulation of macrophage polarization by hypoxia-PADI4 coordination in Rheumatoid arthritis. Int Immunopharmacol. 2021 Oct
2. Wang Y et al. Histone citrullination by PADI4 is required for HIF-dependent transcriptional responses to hypoxia and tumor vascularization. Sci Adv. 2021 Aug