

Human PAD4 / PADI4 Protein (His Tag)



Sino Biological
Biological Solution Specialist

Catalog Number: 11072-H07B

General Information

Gene Name Synonym:

PAD; PAD4; PADI5; PDI4; PDI5

Protein Construction:

A DNA sequence encoding the human PADI4 (Met1-Pro663) was expressed with a polyhistidine tag at the N-terminus.

Source: Human

Expression Host: Baculovirus-Insect Cells

QC Testing

Purity: > 95 % as determined by SDS-PAGE.

Endotoxin:

< 1.0 EU per µg protein as determined by the LAL method.

Stability:

Samples are stable for up to twelve months from date of receipt at -70 °C

Predicted N terminal: Met

Molecular Mass:

The recombinant human PADI4 consists of 681 amino acids and predicts a molecular mass of 76.3 kDa.

Formulation:

Lyophilized from sterile 20 mM Tris, 500 mM NaCl, 10 % glycerol, pH 7.4.

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

Usage Guide

Storage:

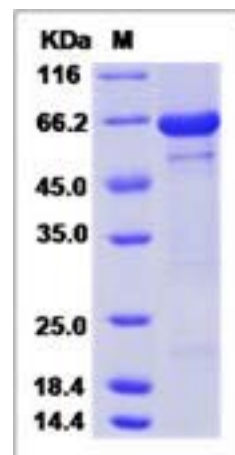
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

Protein-arginine deiminase type-4, also known as HL-60 PAD, Peptidylarginine deiminase IV, Protein-arginine deiminase type IV and PADI4, is a cytoplasm and nucleus protein which belongs to the protein arginine deiminase family. PADI4 is expressed in CD34+ stem cells in normal tissues, and many more CD34+ cells expressing PADI4 are present in tumour tissues. PADI4 post-translationally converts peptidylarginine to citrulline, a process called citrullination. Studies have demonstrated the high expression of PADI4 in various malignant tumour tissues. PADI4 is also expressed at high levels in the blood of patients with some malignant tumours. Citrullination of histone, cytokeratin, antithrombin and fibronectin have been confirmed to be involved in abnormal apoptosis, high coagulation, and disordered cell proliferation and differentiation, all of which are main features of malignant tumours. PADI4 may play an important role in tumorigenesis. Genetic variations in PADI4 are a cause of susceptibility to rheumatoid arthritis (RA). It is a systemic inflammatory disease with autoimmune features and a complex genetic component. It primarily affects the joints and is characterized by inflammatory changes in the synovial membranes and articular structures, widespread fibrinoid degeneration of the collagen fibers in mesenchymal tissues, and by atrophy and rarefaction of bony structures.

References

1. Nakashima K. et al., 1999, J. Biol. Chem. 274: 27786-92. 2. Suzuki A. et al., 2003, Nat. Genet. 34:395-402. 3. Nakayama-Hamada M. et al., 2005, Biochem. Biophys. Res. Commun. 327:192-200.

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