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Anti-PAD4 Reference Antibody (BMS patent anti-PAD4)

Catalog # APR11526

Product Information

Application	Functional assay, Kinetics (SPR), Kinetics (BLI), FACS, E, FTA
Primary Accession	Q9UM07
Reactivity	Human
Clonality	Monoclonal
Isotype	IgG1
Calculated MW	74079

Additional Information

Target/Specificity	PAD4
Expression system	CHO

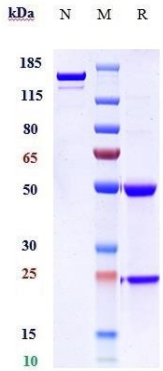
Protein Information

Name	PADI4 {ECO:0000303|PubMed:12833157, ECO:0000312|HGNC:HGNC:18368}
Function	Catalyzes the citrullination/deimination of arginine residues of proteins such as histones, thereby playing a key role in histone code and regulation of stem cell maintenance (PubMed:15339660, PubMed:15345777, PubMed:16567635, PubMed:19153223, PubMed:21245532, PubMed:25622091). Citrullinates histone H1 at 'Arg-54' (to form H1R54ci), histone H3 at 'Arg-2', 'Arg-8', 'Arg-17' and/or 'Arg-26' (to form H3R2ci, H3R8ci, H3R17ci, H3R26ci, respectively) and histone H4 at 'Arg-3' (to form H4R3ci) (PubMed:15339660, PubMed:15345777, PubMed:16567635, PubMed:21245532). Acts as a key regulator of stem cell maintenance by mediating citrullination of histone H1: citrullination of 'Arg-54' of histone H1 (H1R54ci) results in H1 displacement from chromatin and global chromatin decondensation, thereby promoting pluripotency and stem cell maintenance (PubMed:15339660, PubMed:15345777, PubMed:16567635, PubMed:21245532). Promotes profound chromatin decondensation during the innate immune response to infection in neutrophils by mediating formation of H1R54ci (PubMed:18209087). Citrullination of histone H3 prevents their methylation by CARM1 and HRMT1L2/PRMT1 and represses transcription (PubMed:15345777). Involved for the formation of neutrophil extracellular traps (NETs) by mediating citrullination of histone H3 and initiating decondensation of chromatin and nuclear membrane rupture (PubMed:19153223, PubMed:25622091, PubMed:28574339, PubMed:32170015). NETs are mainly composed of DNA fibers and are released by neutrophils to trap pathogens during inflammation (PubMed:19153223). Citrullinates EP300/P300 at 'Arg-2142', which favors its interaction with NCOA2/GRIP1 (PubMed:15731352).
Cellular Location	Cytoplasm. Nucleus. Cytoplasmic granule. Note=Cytoplasmic granules of

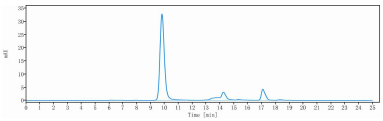
eosinophils and neutrophils.

Tissue Location Expressed in eosinophils and neutrophils, not expressed in peripheral monocytes or lymphocytes

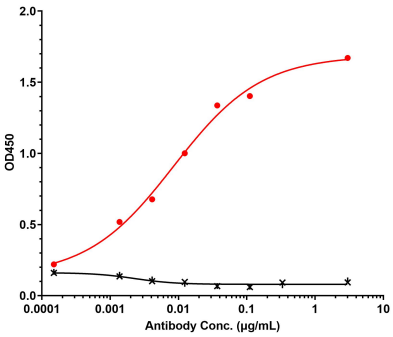
Images



Anti-PAD4 Reference Antibody (BMS patent anti-PAD4) on SDS-PAGE under reducing (R) condition. The purity of the protein is greater than 95%.



The purity of Anti-PAD4 Reference Antibody (BMS patent anti-PAD4) is 98.6%, determined by SEC-HPLC.



Immobilized PAD4-His , It's target at 2 μg/mL can bind BMS patent anti-PAD4, EC50= 0.008549 μg/mL.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.