Datasheet for ABIN3137592

PAD4 Protein (AA 1-666) (Strep Tag)

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Overview

Quantity:	250 µg
Target:	PAD4 (PADI4)
Protein Characteristics:	AA 1-666
Origin:	Mouse
Source:	Cell-free protein synthesis (CFPS)
Protein Type:	Recombinant
Purification tag / Conjugate:	This PAD4 protein is labelled with Strep Tag.
Application:	Western Blotting (WB), SDS-PAGE (SDS), ELISA

Product Details

Brand:	AliCE®
Sequence:	MAQGAVIHVA PEQPTHAVCV VGTATPLDVR GSAPKGYTTF GITASPGVIV DVIHGPPVKK STMGASKWPL DPELEVTLQV KAASSRTDDE KVRVSYYGPK TSPVQALIYI TGVELSLSAD VTRTGRVKPA QAGKDQSTWT WGPGGRGAIL LVNCDKEDPQ ASGMDFEDDK ILDNKDLQDM SPMTLSTKTP KDFFEKYQLV LEVPKAKMNR VRVFRATRGK LPSRYKVALG PQQFSYCLEL PGGQHSTDFY VEGLAFPDAD FKGLIPLTIS LLDKSNPELP EALVFQDSVT FRVAPWIMTP NTQPPQEVYV CRVSDNEDFL KSLATLTKKA KCKLTVCPEE ENIDDQWMQD EMEIGYIQAP HKTLPVVFDS PRDRGLKDFP VKRVMGPNFG YVTRKLYMSE LTGLDAFGNL EVSPPVTVRG KEYPLGRILI GNSGYSSSES RDMHQALQDF LSAQQVQAPV RLFSDWLFVG HVDEFLSFVP ARDKQGFRLL LSSPRACYQL FQELQSQGHG EATLFEGLKR KRQTINEILS NKKLRDQNAY VESCIDWNRA VLKRELGLAE GDIIDIPQLF KLAGNSRGNS KAQAFFPNMV NMLVLGKYLG IPKPFGPIID GHCCLEEEVR SHLEPLGLHC TFINDFYTYH VYNGEVHCGT NVRRKPFTFK

Product Details

	WWHMVP **Sequence without tag. The proposed Strep-Tag is based on experience s with the expression system, a different complexity of the protein could make another tag necessary. In case you have a special request, please contact us.**
Characteristics:	Key Benefits: • Made in Germany - from design to production - by highly experienced protein experts. • Protein expressed with ALiCE® and purified in one-step affinity chromatography • These proteins are normally active (enzymatically functional) as our customers have reported (not tested by us and not guaranteed). • State-of-the-art algorithm used for plasmid design (Gene synthesis). This protein is a **made-to-order protein** and will be made for the first time for your order. Our experts in the lab try to ensure that you receive soluble protein. The big advantage of ordering our **made-to-order proteins** in comparison to ordering custom made proteins from other companies is that there is no financial obligation in case the protein cannot be expressed or purified. Expression System: • ALiCE®, our Almost Living Cell-Free Expression System is based on a lysate obtained from Nicotiana tabacum c.v.. This contains all the protein expression machinery needed to produce even the most difficult-to-express proteins, including those that require post-translational modifications. • During lysate production, the cell wall and other cellular components that are not required for protein production are removed, leaving only the protein production machinery and the mitochondria to drive the reaction. During our lysate completion steps, the additional components needed for protein production (amino acids, cofactors, etc.) are added to produce something that functions like a cell, but without the constraints of a living system - all that's needed is the DNA that codes for the desired protein! Concentration: • The concentration of our recombinant proteins is measured using the absorbance at 280nm. • The protein's absorbance will be measured against its specific reference buffer. • We use the Expasy's ProtParam tool to determine the absorption coefficient of each protein.
Purification:	One-step Strep-tag purification of proteins expressed in Almost Living Cell-Free Expression System (AliCE®).

Product Details

Purity:	> 70-80 % as determined by SDS PAGE, Western Blot and analytical SEC (HPLC).
Grade:	custom-made

Target Details

Target:	PAD4 (PADI4)
Alternative Name:	Padi4 (PADI4 Products)
Background:	Protein-arginine deiminase type-4 (EC 3.5.3.15) (Peptidylarginine deiminase IV) (Protein-arginine deiminase type IV),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:32528174). 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). 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:24463520, PubMed:32528174). Promotes profound chromatin decondensation during the innate immune response to infection in neutrophils by mediating formation of H1R54ci (PubMed:20733033, PubMed:23650392). Required for the formation of neutrophil extracellular traps (NETs), NETs are mainly composed of DNA fibers and are released by neutrophils to bind pathogens during inflammation (PubMed:20733033, PubMed:32528174). Citrullination of histone H3 prevents their methylation by CARM1 and HRMT1L2/PRMT1 and represses transcription (By similarity). Citrullinates EP300/P300 at 'Arg-2142', which favors its interaction with NCOA2/GRIP1 (By similarity). {ECO:0000250|UniProtKB:Q9UM07, ECO:0000269|PubMed:15339660, ECO:0000269|PubMed:20733033, ECO:0000269|PubMed:23650392, ECO:0000269|PubMed:24463520, ECO:0000269|PubMed:32528174}.
Molecular Weight:	74.4 kDa
UniProt:	Q9Z183

Application Details

Application Notes:	In addition to the applications listed above we expect the protein to work for functional studies as well. As the protein has not been tested for functional studies yet we cannot offer a guarantee though.

Application Details

Comment:	ALiCE®, our Almost Living Cell-Free Expression System is based on a lysate obtained from Nicotiana tabacum c.v.. This contains all the protein expression machinery needed to produce even the most difficult-to-express proteins, including those that require post-translational modifications. During lysate production, the cell wall and other cellular components that are not required for protein production are removed, leaving only the protein production machinery and the mitochondria to drive the reaction. During our lysate completion steps, the additional components needed for protein production (amino acids, cofactors, etc.) are added to produce something that functions like a cell, but without the constraints of a living system - all that's needed is the DNA that codes for the desired protein!
Restrictions:	For Research Use only

Handling

Format:	Liquid
Buffer:	The buffer composition is at the discretion of the manufacturer. Standard Storage Buffer: PBS pH 7.4, 10 % Glycerol **Might differ depending on protein.**
Handling Advice:	Avoid repeated freeze-thaw cycles.
Storage:	-80 °C
Storage Comment:	Store at -80°C.
Expiry Date:	12 months