

# PRODUCT INFORMATION



## Citrullinated BSA

Item No. 43743

### Overview and Properties

**Synonyms:** Citrulline Bovine Serum Albumin, Citrulline-modified Bovine Serum Albumin  
**Source:** Albumin isolated from bovine plasma and modified with citrulline  
**Uniprot No.:** P02769  
**Molecular Weight:** ~66.43 kDa  
**Storage:** -80°C (as supplied)  
**Stability:** ≥1 year  
**Purity:** ≥80% (estimated by SDS-PAGE)  
**Supplied in:** PBS, pH 7.4  
**Concentration:** *batch specific* mg/ml

*Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.*

### Image

Pre-Citrullination					Post-Citrullination				
MKWVTFISLL	LLFSSAYSRG	VFRRDTHKSE	IAHREKDLGE	EHFKGLVLIA	MKWVTFISLL	LLFSSAYSRG	VFRDTHKSE	IAHREKDLGE	EHFKGLVLIA
FSQYLQQCPF	DEHVKLVNEL	TEFAKTCVAD	ESHAGCEKSL	HTLFGDELCK	FSQYLQQCPF	DEHVKLVNEL	TEFAKTCVAD	ESHAGCEKSL	HTLFGDELCK
VASLR <sup>110</sup> RETYGD	MADCC <sup>120</sup> CKEQEP	ERNECFLSHK	DDSPDL <sup>130</sup> PKLK	PDPN <sup>140</sup> TL <sup>150</sup> CDEF	VASLR <sup>110</sup> RETYGD	MADCC <sup>120</sup> CKEQEP	ERNECFLSHK	DDSPDL <sup>130</sup> PKLK	PDPN <sup>140</sup> TL <sup>150</sup> CDEF
KADEK <sup>160</sup> KFWGK	YLYEIA <sup>170</sup> RRHP	YFYAPE <sup>180</sup> LLYY	ANKYNG <sup>190</sup> VVFQE	CCQAE <sup>200</sup> DKGAC	KADEK <sup>160</sup> KFWGK	YLYEIA <sup>170</sup> RRHP	YFYAPE <sup>180</sup> LLYY	ANKYNG <sup>190</sup> VVFQE	CCQAE <sup>200</sup> DKGAC
LLPKI <sup>210</sup> ETMRE	KVLTSSA <sup>220</sup> RQR	LRCASIQ <sup>230</sup> KFG	ERALKAW <sup>240</sup> SV	RLSQK <sup>250</sup> FPKAE	LLPKI <sup>210</sup> ETMRE	KVLTSSA <sup>220</sup> RQR	LRCASIQ <sup>230</sup> KFG	ERALKAW <sup>240</sup> SV	RLSQK <sup>250</sup> FPKAE
FVEVTK <sup>260</sup> L <sup>270</sup> VTD	LTKVH <sup>280</sup> KECCH	GFLLEC <sup>290</sup> ADDR	ADLAKY <sup>300</sup> ICDN	QDTISS <sup>310</sup> KLKE	FVEVTK <sup>260</sup> L <sup>270</sup> VTD	LTKVH <sup>280</sup> KECCH	GFLLEC <sup>290</sup> ADDR	ADLAKY <sup>300</sup> ICDN	QDTISS <sup>310</sup> KLKE
CCDKP <sup>320</sup> LLEKS	HCIAE <sup>330</sup> VEKDA	IPENLP <sup>340</sup> LTA	DFAEDK <sup>350</sup> DVCK	NYQEA <sup>360</sup> KDAFL	CCDKP <sup>320</sup> LLEKS	HCIAE <sup>330</sup> VEKDA	IPENLP <sup>340</sup> LTA	DFAEDK <sup>350</sup> DVCK	NYQEA <sup>360</sup> KDAFL
GSFLY <sup>370</sup> EYSRR	HPEYAV <sup>380</sup> S <sup>390</sup> VLL	RLAKEY <sup>400</sup> EATL	EECCA <sup>410</sup> KDDPH	ACYST <sup>420</sup> VFDKL	GSFLY <sup>370</sup> EYSRR	HPEYAV <sup>380</sup> S <sup>390</sup> VLL	RLAKEY <sup>400</sup> EATL	EECCA <sup>410</sup> KDDPH	ACYST <sup>420</sup> VFDKL
KHLVDE <sup>430</sup> PQNL	IKQNC <sup>440</sup> DQFEK	LGEYGF <sup>450</sup> QNAL	IVRYTR <sup>460</sup> KVPQ	VSTPT <sup>470</sup> LVEVS	KHLVDE <sup>430</sup> PQNL	IKQNC <sup>440</sup> DQFEK	LGEYGF <sup>450</sup> QNAL	IVRYTR <sup>460</sup> KVPQ	VSTPT <sup>470</sup> LVEVS
RSLGK <sup>480</sup> VGT <sup>490</sup> RC	CTKPE <sup>500</sup> SE <sup>510</sup> RMP	CTEDY <sup>520</sup> L <sup>530</sup> SLIL	NRLCVL <sup>540</sup> HEKT	PVSEK <sup>550</sup> VTKCC	RSLGK <sup>480</sup> VGT <sup>490</sup> RC	CTKPE <sup>500</sup> SE <sup>510</sup> RMP	CTEDY <sup>520</sup> L <sup>530</sup> SLIL	NRLCVL <sup>540</sup> HEKT	PVSEK <sup>550</sup> VTKCC
TESLVN <sup>560</sup> R <sup>570</sup> PC	FSALT <sup>580</sup> PD <sup>590</sup> ETY	VPKAF <sup>600</sup> DE <sup>610</sup> KLF	TFHAD <sup>620</sup> ICTLP	DTEKQ <sup>630</sup> IKKQT	TESLVN <sup>560</sup> R <sup>570</sup> PC	FSALT <sup>580</sup> PD <sup>590</sup> ETY	VPKAF <sup>600</sup> DE <sup>610</sup> KLF	TFHAD <sup>620</sup> ICTLP	DTEKQ <sup>630</sup> IKKQT
ALVELL <sup>640</sup> KHKP	KATEEQ <sup>650</sup> LKT <sup>660</sup> V	MENFVA <sup>670</sup> FV <sup>680</sup> DK	CCAADD <sup>690</sup> KEAC	FAVEG <sup>700</sup> P <sup>710</sup> KL <sup>720</sup> VV	ALVELL <sup>640</sup> KHKP	KATEEQ <sup>650</sup> LKT <sup>660</sup> V	MENFVA <sup>670</sup> FV <sup>680</sup> DK	CCAADD <sup>690</sup> KEAC	FAVEG <sup>700</sup> P <sup>710</sup> KL <sup>720</sup> VV
STQTALA					STQTALA				

Identification of modified sites in Citrullinated BSA (Item No. 43473). Citrullinated BSA was detected by LC-MS/MS and analyzed using Mascot and Scaffold PTM software. Naturally deaminated arginines are indicated in teal. Additional deaminated arginines are shown in red.

Citrullination sites shown are representative of typical results. Batch-to-batch variations may occur.

**WARNING**  
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

**SAFETY DATA**  
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

**WARRANTY AND LIMITATION OF REMEDY**  
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# PRODUCT INFORMATION



## Description

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Citrulline is a non-proteinogenic amino acid that is produced by deimination of arginine through the post-translational modification citrullination.<sup>1</sup> Citrullination is catalyzed by protein arginine deiminases (PADs) that convert positively charged arginine to electrically neutral citrulline, decreasing the isoelectric point of the protein, altering the native protein structure, and influencing protein ionic interactions.<sup>2</sup> Protein citrullination has roles in many physiological and pathological processes, including autoimmunity, cancer, and neurodegenerative disorders.<sup>3</sup> This product contains PAD4-citrullinated bovine serum albumin (BSA), which contains a higher ratio of citrullination than native BSA.

## References

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1. Yuzhalin, A.E. Citrullination in cancer. *Cancer Res.* **79(7)**, 1274-1284 (2019).
2. György, B., Tóth, E., Falus, A., *et al.* Citrullination: A posttranslational modification in health and disease. *Int. J. Biochem. Cell Biol.* **38(10)**, 1662-1677 (2006).
3. Lee, C.-Y., Wang, D., Wilhelm, M., *et al.* Mining the human tissue proteome for protein citrullination. *Mol. Cell Proteomics* **17(7)**, 1378-1391 (2018).