Datasheet for ABIN7562511

# TOP3A Protein (AA 1-1003) (His tag)

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## Overview

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| Quantity: | 1 mg |
| Target: | TOP3A |
| Protein Characteristics: | AA 1-1003 |
| Origin: | Mouse |
| Source: | HEK-293 Cells |
| Protein Type: | Recombinant |
| Purification tag / Conjugate: | This TOP3A protein is labelled with His tag. |

## Product Details

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| Purpose: | Custom-made recombinant Top3a Protein expressed in mammalian cells. |
| Sequence: | MIFPVTLLAF QWHRRPGGRA LSRAAMEVAF RGVRKVLCVA EKNDAAKGIA DLLSNGRMRR KEGLSKFNKI YEFDYHLYGQ NVTMIMTSVS GHLLAHDFQM QFRKWQSCNP LVLFEAEIEK YCPENFIDIK KTLERETHHC QALVIWTDCD REGENIGFEI IHVCKAVKPN LRVLRARFSE ITPHAVRTAC ENLTEPDQRV SDAVDVRQEL DLRIGAAFTR FQTLRLQRIF PEVLAEQLIS YGSCQFPTLG FVVERFKAIQ AFVPEVFHKI KVTHDHKDGT VEFNWKRYRL FNHTACLVLY QLCMEDPMAT VVEVRSKPKS KWRPQALDTV ELEKLASRKL RINAKETMRI AEKLYTQGYI SYPRTETNIF PKDLNLVALV EQQTVDPHWG AFAQTILERG GPTPRNGSKS DQAHPPIHPT KYTSGLQGDD RRLYEFIVRH FLACCSQDAQ GQETTVEIDI AQERFVAHGL IILARNYLDV YPYDHWSDKL LPVYEQGSHF QPSTVEMVDG ETSPPQLLTE ADLIALMEKH GIGTDATHAE HIETIKARMY VGLTSDKRFL PGHLGMGLVE GYDSMGYEMS KPDLRAELEA DLKLICEGKK DKFQVLRQQV QKYKQVFIEA VAKAKKLDEA LSQYLGERTE MAQQEEIYPA MPEPVRKCPQ CNKDMVLKTK KSGGFYLSCM GFPECRSAVW FPDSVLEASR DNSVCSVCQP PPVYRLKLKF |

## Product Details

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| | KRGSLPPAMP LEFVGCIGGC DETLKEIFGL RFPRALPRAS QPSGHLQASQ ALNRMDSSQH NLSQPLVNRH TRPSKTVAQA LLPPTTAGES NSVTCNCGRE AVLLTVRKQG PNQGRHFYKC SNGDCNFFLW ADSSHSTGGG TPTSASGPPG SSVGCPSSVG SHMDGFGSLG SDSDGGTPCL CGQPAVTRTV QKDGPNKGRQ FHTCAKPREQ QCGFFQWVDE NVAPGSFAAP AWPGGRGKAQ RPEAASKRPR AGSSDAGSTV KKPRKCSLCH QPGHTRTFCP QNR **Sequence without tag. The proposed Purification-Tag is based on experiences 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.** |
| Specificity: | If you are looking for a specific domain and are interested in a partial protein or a different isoform, please contact us regarding an individual offer. |
| Characteristics: | Key Benefits:<br>• Made to order protein - from design to production - by highly experienced protein experts.<br>• Protein expressed in mammalian cells and purified in one-step affinity chromatography<br>• The optimized expression system ensures reliability for intracellular, secreted and transmembrane proteins.<br>• State-of-the-art algorithm used for plasmid design (Gene synthesis).<br><br>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.<br><br>If you are not interested in a full length protein, please contact us for individual protein fragments.<br><br>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. |
| Purity: | > 90 % as determined by Bis-Tris PAGE, anti-tag ELISA, Western Blot and analytical SEC (HPLC) |
| Grade: | custom-made |

## Target Details

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| Target: | TOP3A |
| Alternative Name: | Top3a (TOP3A Products) |
| Background: | DNA topoisomerase 3-alpha (EC 5.6.2.1) (DNA topoisomerase III alpha),FUNCTION: Releases the supercoiling and torsional tension of DNA introduced during the DNA replication and transcription by transiently cleaving and rejoining one strand of the DNA duplex. Introduces a |

## Target Details

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| | single-strand break via transesterification at a target site in duplex DNA. The scissile phosphodiester is attacked by the catalytic tyrosine of the enzyme, resulting in the formation of a DNA-(5'-phosphotyrosyl)-enzyme intermediate and the expulsion of a 3'-OH DNA strand. The free DNA strand then undergoes passage around the unbroken strand thus removing DNA supercoils. Finally, in the religation step, the DNA 3'-OH attacks the covalent intermediate to expel the active-site tyrosine and restore the DNA phosphodiester backbone. As an essential component of the RMI complex it is involved in chromosome separation and the processing of homologous recombination intermediates to limit DNA crossover formation in cells. Has DNA decatenation activity. It is required for mtDNA decatenation and segregation after completion of replication, in a process that does not require BLM, RMI1 and RMI2. {ECO:0000250\|UniProtKB:Q13472}. |
| Molecular Weight: | 112.4 kDa |
| UniProt: | O70157 |
| Pathways: | DNA Damage Repair |

## Application Details

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| Application Notes: | We expect the protein to work for functional studies. As the protein has not been tested for functional studies yet we cannot offer a guarantee though. |
| Restrictions: | For Research Use only |

## Handling

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| Format: | Liquid |
| Buffer: | The buffer composition is at the discretion of the manufacturer. |
| Handling Advice: | Avoid repeated freeze-thaw cycles. |
| Storage: | -80 °C |
| Storage Comment: | Store at -80°C. |
| Expiry Date: | 12 months |