

Recombinant Rat MUC4 Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP52505

Size: 10ug, 100ug

Protein Name: Mucin-4 (MUC-4) (Ascites sialoglycoprotein) (ASGP) (Pancreatic adenocarcinoma mucin) (Pre-sialomucin complex) (pSMC) (Sialomucin complex) (Testis mucin) [Cleaved into: Mucin-4 alpha chain (Ascites sialoglycoprotein 1) (ASGP-1); Mucin-4 beta chain (Ascites sialoglycoprotein 2) (ASGP-2)]

Synonym: Muc4, Smc

UniProt ID: Q63661

UniProt Link: www.uniprot.org/uniprotkb/Q63661/entry

Species Source: Rat

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 2344 AA

Molecular Weight: 248 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MRGPHGVSWRVPWLCLSCCLCLLLLLPVNTSTTSAPKTSTALPSSSTNPSQMTSQVSNPTASSYRMT
KNTGQASPMVTSSSITLTPQSQHTGSMKTRNPQTTGTTEVTTTLSASSSDQVQVETTSQTTLSPDT
TTTSHAPRESSSPSTSVILTTASTEGTSGDTGHTMAVTTQGSTPATTEISVTPSTQKMSPVSTFST
STQEITTLQSQHTGGMKTRNPQTTGTTEVTTTLSASSSDHPTSSPESTPGNTAPRTTETSTTTTK
VLMTSLQQKLPTGSTLGTSTQELTTLPQSQHTGIMKTSRTQTTTPTEVTTRTLASSSDHRQAETS
SQTTLSPDTTTTSHAPRESSPPSTSVILTHGHREGTSGDTGHTMAVTTQGSTPATTEISVTPSTQKM
SPVSTFSTSTQEITTLQSQHTGGMKTRNPQRTTPTEVTTSTLSASSSDQVQVETTSRATLSPDTT
TTSHAPSVSSSSPSPSTEGTSVDTGLTTAVTTQDSTPATTQGSLSSTSSQTLSTVSPLSTSTQETST
QELTSSQSQHTGSMKTTNPNQTTNTEVTTTLSASSSDQVQVETTSQTTLSDATTTSHAPRESSSP
PSTSDILTTMASTEGTSGDTGHTMAVTTQGSTPATTEISVTPSTQKMSPVSTFSTSTQEITTLQSQHT
TGGMKTRNPQTTGTTEVTTTLSASSSDQVQAETSSQTTLSPDTTTTSHAPRESSSPSTSDMLTTT
ASTEGTSGDTGHTTAVTTQGSIPATTQLSTTFASQKMSTVSTPTTSSIQELSTLPQSQHTGSMEISSR
PQTTSVTSTLSSSPSGSTPVQTRSVTSSSDERTNPTSSGVSNTSPATTEVLTPTSSPESTPGNTAPR
TTETSTTTTTLVLMTSLQQKLPTGSTLGTSTPTEVTTTLSASSSDQVQVETTSQTTLSPDATTTSHAP
RESSPPSTSVILTTMASTEGTSGDTGHTTAVTDQGSTPATTEISVTPSTQKMSTVSTLVTSTQELTS
SQSQRTGSMGTSSKPQATTPTTEVTTSTLSSFSRGSLSARNCCCLQTKKPPLPAVVCLPDPSSVPSL



MHSSKPQATTPTTEVTTSTLSSFSRGSTQTQTVSWETSSSGKITAPSTSSRRTPSVATSDIFTTTDSTS
GNAGHTLLTGSHSVITSRVASTTLGRLSTVAHRQSTQRSSTHSQSYLTESMGASSTSETSLLTEATT
ETSLCLFTWTHCDRDLLSWTSSSGLTTKTDNDRSTALSATSLTLPAPSTSTASRSTVPPAPLPDQGI
SLFQIGFPLGSLCGIPSILQITVRSFSPSQTTMSSPTPTHLKEASQEGSVCHSGHSGVMLISLAPGEY
FRTTTSHFTMSSTSLIRKVESLINEFTSDWSFKPSDTEVTWVNPAYPAQGRTLANTYQAILSTDGS
RSYALFLYQSGGMRWDVTQGLYNRVLMGFSSGDGYFENSPLIFRPAVEKYRPDRFLTPNYGSGDS
RSTGYTGRCGPTTGSSVCSGWKVSLSPPAGAGTRFPALAPGSRDFGSGSSTQVCGAGSYAASLRA
GRVLYVWHLGEFREGWRMHSPWQFDEDEGRHRTGLAAGTTSPLSASSTSSGGPELVVLGTRPPR
PAWTFGDPHITTLDNAKYTFNGLGYFLLVQAQDRNSSFLLEGRTAQTDSANATNFIAFAAQYNTSSL
KSPITVQWFLEPNDTIRVVHNNQTVAFNTSDTEDLPVFNATGVLLIQNGSQVSANFDGTVTISVIALSN
ILHASSSLSEEYRNHTKGLLGWVNDNPEDDFRMPNGSTIPSNTSEETLFHYGMTSETNGIGLLGVRT
DPLPSEFTPIFLSQLWNKSGAGEDLISGCNEDAQCKFDILATGNRDIGQSTNSILRTFRHVNGTLNQY
PPPIHYSSKIQAYKGREQWPLRSPATLRMSYSASPTSAVAFELFENGSLHVDNIPRRTYLEILARDV
KTNLSSVLQPETVACFCSKEEQCLYNETSKEGNSSTEVTSCCKCDGNSFGRLCESKDLCTEPCFPN
VDCIPGKGCQACPPNMTGDGRHCVAVEISEFCQNHSCPVNVCYNHGHCDISGPPDCQPTCTCAPA
FTGNRCFLAGNNFTPIIYKELPLRTITLSLREDENASNADVNASVANVLENLDMRAFLNSLVELIRTS
PGAPVLGKPIHHWKVVSFKYRPRGPLIHYLNNQLISAVMEAFLLQARQERRKRSGEARKNVRFFPI
SRADVQDGMALNLSMLDEYFTCDGYKGYHLVYSPQDGVTCVSPCSEGYCHNGGQCKHLPDGPQC
TCATFSIYTSWGERCEHLSVKLGAFFGILFGALGALLLAILACVVFHFCGCSMNKFSYPLDSEL

3. Buffer Composition

Liquid format: PBS-based buffer containing 50% glycerol. Glycerol concentration can be customized upon customer request; please state special requirements when placing your order.

Lyophilized format: Buffer before lyophilization is PBS supplemented with 6% trehalose.

4. Storage Conditions

Upon receipt, store the product at -20 °C or -80 °C. Aliquot the product for on-demand use to preserve protein activity and prevent denaturation and inactivation caused by repeated freeze-thaw cycles.

5. Product Description

This product is recombinant Mucin-4 (MUC-4) (Ascites sialoglycoprotein) (ASGP) (Pancreatic adenocarcinoma mucin) (Pre-sialomucin complex) (pSMC) (Sialomucin complex) (Testis mucin) [Cleaved into: Mucin-4 alpha chain (Ascites sialoglycoprotein 1) (ASGP-1); Mucin-4 beta chain (Ascites sialoglycoprotein 2) (ASGP-2)] produced using the HEK293T eukaryotic cell expression system. It is suitable for in-vitro functional assays, protein-protein interaction studies, antibody preparation and other biomedical research applications.

Protein Function: Membrane-bound mucin, a family of highly glycosylated proteins that constitute the major component of the mucus, the slimy and viscous secretion covering epithelial surfaces. These glycoproteins play important roles in the protection of the epithelium and are implicated in epithelial renewal and differentiation. Regulates cellular behavior through both anti-adhesive effects on cell-cell and cell-extracellular matrix interactions and its ability to act as an intramembrane ligand for ERBB2. Plays an important role in proliferation and differentiation of epithelial cells by inducing specific phosphorylation of ERBB2. In polarized epithelial cells, segregates ERBB2 and other ERBB receptors and prevents ERBB2 from acting as a coreceptor. The interaction with ERBB2 leads to enhanced expression of CDKN1B. The formation of a MUC4-ERBB2-ERBB3-NRG1 complex leads to down-regulation of CDKN1B, resulting in repression of apoptosis and stimulation of proliferation.

Its ability to promote tumor growth may be mainly due to repression of apoptosis as opposed to proliferation.

Subcellular Localization: [Mucin-4 beta chain]: Cell membrane ; Multi-pass membrane protein .; [Mucin-4 alpha chain]: Secreted . Note=Secreted by proteolytic processing.

6. Notes

- Avoid repeated freeze-thaw cycles to maintain protein stability and biological activity.
- Please specify special buffer- composition requirements at the time of order placement.
- For research use only. Not intended for clinical diagnosis, therapeutic use or commercial manufacturing.