

Recombinant Human TONSL Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP51007

Size: 10ug, 100ug

Protein Name: Tonsoku-like protein (Inhibitor of kappa B-related protein) (I-kappa-B-related protein) (IkappaBR) (NF-kappa-B inhibitor-like protein 2) (Nuclear factor of kappa light polypeptide gene enhancer in B-cells inhibitor-like 2)

Synonym: TONSL, IKBR, NFKBIL2

UniProt ID: Q96HA7

UniProt Link: www.uniprot.org/uniprotkb/Q96HA7/entry

Species Source: Human

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 1378 AA

Molecular Weight: 151 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MSLERELRQLSKAKAKAQRAGQRREEAALCHQLGELLAGHGRYAEALEQHWQELQLRERADDPLG
CAVAHRKIGERLAEMEDYPAALQHQHQYLELAHSLRNHTELQRAWATIGRTHLDIYDHCQSRDALLQ
AQAAFEKSLAIVDEELEGTLAQGELNEMRTRLYLNLGLTFESLQQTALCNDYFRKSIFLAEQNHLYED
LFRARYNLGTIHWRAQHSQAMRCLEGARECAHTMRKRMESECCVIAQVLQDLGDFLAAKRAL
KKAYRLGSQKPVQRAAICQNLQHVLA VVRLQQQLEEAEGRDPQGAMVICEQLGDLFSKAGDFPRAA
EAYQKQLRFAELLDRPGAERAIHVSLATTLGDMKDHHGAVRH YEEELRLRSGNVLEEAKTWLNIALS
REEAGDAYELLAPCFQKALSCAQQAQRPQLQRQVLQHLHTVQLRLQPQEAPETETRLRELSVAEDE
DEEEEAEEAAATAESEALEAGEVELSEGEDDTDGLTPQLEEDEELQGH LGRRKGSKWNRRNDMGE
TLLHRACIEGQLRRVQDLVRQGHPLNPRDYCGWTP LHEACNYGHLEIVRFLLDHGA AVDDPGGGQG
CEGITPLHDALNCGHF EVAELL LERGASVTLRTRKGLSPLETLQQWVKLYRRDL DLETRQKARAME
MLLQAAASGQDPHSSQAFHTPSSLLFDPETSPPLSPCPEPPSNSTR LPEASQAHVRVSPGQAAPAM
ARPRRSRHGPASSSSSSSEGEDSAGPARPSQKRPRCSATAQRVAAWTPGPASNREAA TASTSRAA
YQAAIRGVGSAQSRLGPGPPRGH SKALAPQAALIP EEECLAGDWLELDMP LTRSRPRPRGTGDN
RRPSSTSGSDSESRPRARAKQVRLTCMQSCSAPVNAGPSS LASEPPGSPSTPRVSEPSGDSSAA
GQPLGPAPPPPIRVRVQVDHLFLIPVPHSSDTHSVAWLAEQAAQRY YQTCGLLPRLTLRKEGALLA
PQDLIPDVLQSNDEVLA EVTSWDLPLTD RYRRACQSLGQGEHQV LQAVELQGLGLSFSACSLAL
DQAQLTPLLRALKLHTALRELRLAGNRLGDKCVAELVAALGTMP SLALLDLSSNHLGPEGLRQLAMG



LPGQATLQSLEELDLSMNPLGDGCGQSLASLLHACPLLSTLRLQACGFGPSFFLSHQ TALGSAFQDA
EHLKTL SLSYNALGAPALARTLQSLPAGTLLHLELSSVAAGKGDSLMEPVFRYLAKEGCALAHLTLS
ANH LGDKAVRDLCRCLSLCPSLISLDLSANPEISCASLEELLSTLQKRPQGLSFLGLSGCAVQGPLGL
GLWDKIAAQLRELQLCSRRLCAEDRDALRQLQPSRPGPGECTLDHGSKLFFRRL

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 Tonsoku-like protein (Inhibitor of kappa B-related protein) (I-kappa-B-related protein) (IkappaBR) (NF-kappa-B inhibitor-like protein 2) (Nuclear factor of kappa light polypeptide gene enhancer in B-cells inhibitor-like 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: Component of the MMS22L-TONSL complex, a complex that promotes homologous recombination-mediated repair of double-strand breaks (DSBs) at stalled or collapsed replication forks (PubMed:21055983, PubMed:21055984, PubMed:21055985, PubMed:21113133, PubMed:26527279, PubMed:27338793, PubMed:27797818, PubMed:29478807, PubMed:30773278). The MMS22L-TONSL complex is required to maintain genome integrity during DNA replication (PubMed:21055983, PubMed:21055984, PubMed:21055985). It mediates the assembly of RAD51 filaments on single-stranded DNA (ssDNA): the MMS22L-TONSL complex is recruited to DSBs following histone replacement by histone chaperones and eviction of the replication protein A complex (RPA/RP-A) from DSBs (PubMed:21055983, PubMed:21055984, PubMed:21055985, PubMed:27797818, PubMed:29478807). Following recruitment to DSBs, the TONSL-MMS22L complex promotes recruitment of RAD51 filaments and subsequent homologous recombination (PubMed:27797818, PubMed:29478807). Within the complex, TONSL acts as a histone reader, which recognizes and binds newly synthesized histones following their replacement by histone chaperones (PubMed:27338793, PubMed:29478807). Specifically binds histone H4 lacking methylation at 'Lys-20' (H4K20me0) and histone H3.1 (PubMed:27338793).

Subcellular Localization: Nucleus . Chromosome . Cytoplasm . Note=Mainly nuclear (PubMed:21055983, PubMed:21055984). Localizes to DNA damage sites, accumulates at stressed replication forks (PubMed:21055983, PubMed:21055984, PubMed:26527279, PubMed:27338793). Recruited to stalled or collapsed replication forks following histone replacement by histone chaperones ASF1A and the CAF-1 complex: TONSL acts as a histone reader that recognizes and binds newly synthesized histones (PubMed:29478807).

6. Notes

- Avoid repeated freeze-thaw cycles to maintain protein stability and biological activity.



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- 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.