

## Recombinant Human TUBA1A protein, His-tagged

Cat. No. TUBA1A-3184H Lot. No. (See product label)

### SPECIFICATION

<b>Product Overview</b>	Recombinant Human TUBA1A protein (1-451aa) was fused to His-tag and expressed in E.coli.
<b>Species</b>	Human
<b>Source</b>	E.coli
<b>ProteinLength</b>	1-451 a.a.

### Description

Microtubules of the eukaryotic cytoskeleton perform essential and diverse functions and are composed of a heterodimer of alpha and beta tubulins. The genes encoding these microtubule constituents belong to the tubulin superfamily, which is composed of six distinct families. Genes from the alpha, beta and gamma tubulin families are found in all eukaryotes. The alpha and beta tubulins represent the major components of microtubules, while gamma tubulin plays a critical role in the nucleation of microtubule assembly. There are multiple alpha and beta tubulin genes, which are highly conserved among species. This gene encodes alpha tubulin and is highly similar to the mouse and rat Tuba1 genes. Northern blot studies have shown that the gene expression is predominantly found in morphologically differentiated neurologic cells. This gene is one of three alpha-tubulin genes in a cluster on chromosome 12q. Mutations in this gene cause lissencephaly type 3 (LIS3) - a neurological condition characterized by microcephaly, intellectual disability, and early-onset epilepsy caused by defective neuronal migration. Alternative splicing results in multiple transcript variants encoding distinct isoforms.

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<b>Form</b>	The purified protein was Lyophilized from sterile PBS (58mM Na <sub>2</sub> HPO <sub>4</sub> , 17mM NaH <sub>2</sub> PO <sub>4</sub> , 68mM NaCl, pH7.). 5% trehalose and 5% mannitol are added as protectants before lyophilization.
<b>Molecular Mass</b>	56 kDa
<b>AA Sequence</b>	MRECISIHVGQAGVQIGNACWELCYCLEHGIQPDGQMPSDKTIGGGDDSFNTFFSET GAGKHVPRAVFDLEPTVIDEVRTGTYRQLFHPEQLITGKEDAANNYARGHYTIGKEI IDLVLDRIRKLADQCTGLQGFLVFHSFGGGTSGSFTSLLMERLSVDYGGKSKLEFSIY PAPQVSTAVVEPYNSILTTHHTLEHSDCAFMDNEAIYDICRRNLDIERPTYTNLNRLI GQIVSSITASLRFDGALNVDLTFQTNLVPYPRIHFPLATYAPVISA EKAYHEQLSVAEI TNACFEPANQMVKCDPRHGKYM ACCLLYRGDVV PKDVNAAIATIKTKRTIQFVDWC PTGFKVGINYQPPTVVPGGDLAKVQRAVCMLSNTTAIAEAWARLDHKFDLMYAKRA FVHWYVGE GMEEGEFSEAREDMAALEKDYE EVGVDSVEGEGEEEGEEY
<b>Purity</b>	95%, by SDS-PAGE with Coomassie Brilliant Blue staining.
<b>Storage</b>	Short-term storage: Store at 2-8°C for (1-2 weeks). Long-term storage: Aliquot and store at -20°C to -80°C for up to 3 months, buffer containing 50% glycerol is recommended for reconstitution. Avoid repeat freeze-thaw cycles.
<b>Reconstitution</b>	Reconstitute at 0.25 g/μl in 200 μl sterile water for short-term storage. Reconstitution with 200 μl 50% glycerol solution is recommended for longer term storage. If a different concentration is needed for your purposes please adjust the reconstitution volume as required (please note: the ion concentration of the final solution will vary according to the volume used). Note: Centrifuge vial before opening. When reconstituting, gently pipet and wash down the sides of the vial to ensure full recovery of the protein into solution.

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**Shipping**

The product is shipped at ambient temperature. Upon receipt, store it immediately at the recommended temperature.

**GENE INFORMATION**

<b>Gene Name</b>	TUBA1A
<b>Official Symbol</b>	TUBA1A
<b>Synonyms</b>	LIS3; TUBA3; B-ALPHA-1
<b>Gene ID</b>	7846
<b>mRNA Refseq</b>	NM_001270399.1
<b>Protein Refseq</b>	NP_001257328.1
<b>MIM</b>	602529
<b>UniProt ID</b>	Q71U36

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**SDS-PAGE of  
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