

40S Ribosomal Protein S3/RPS3 Protein, Human (His)

Cat. No.:	HY-P72294
Synonyms:	IMR 90 ribosomal protein S3
Species:	Human
Source:	E. coli
Accession:	P23396 (A2-A243)
Gene ID:	6188
Molecular Weight:	Approximately 32 kDa

PROPERTIES

AA Sequence	<pre> AVQISKKRKF VADGIFKAEL NEFLTRELAE DGYSGVEVRV TPTRTEIIIL ATRTQNVLGE KGRRIRELTA VVQKRFGFPE GSVELYAEKV ATRGLCAIAQ AESLRYKLLG GLAVRRACYG VLRFIMESGA KGCEVVVSGK LRGQRAKSMK FVDGLMIHSG DPVNYVYVDTA VRHVLLRQGV LGIKVKIMLP WDPTGKIGPK KPLPDHVSIV EPKDEILPTT PISEQKGGKP EPPAMPQVP TA </pre>
Appearance	Lyophilized powder.
Formulation	Lyophilized from 0.22 µm filtered solution in PBS, pH 7.4.
Endotoxin Level	<1 EU/µg, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH ₂ O.
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background	<p>40S Ribosomal Protein S3 (RPS3), an integral component of the small ribosomal subunit, contributes to the cellular machinery responsible for protein synthesis. Apart from its ribosomal role, RPS3 exhibits endonuclease activity, participating in the repair of damaged DNA. Demonstrating broad substrate specificity, it cleaves phosphodiester bonds in DNAs containing altered bases and displays a higher efficiency in cleaving supercoiled DNA compared to relaxed DNA. RPS3 exhibits a strong affinity for 7,8-dihydro-8-oxoguanine (8-oxoG), a common DNA lesion induced by reactive oxygen species. Furthermore, it influences DNA repair processes by stimulating the activities of base excision proteins, such as OGG1 and</p>
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UNG1, and promoting the cleavage of the phosphodiester backbone by APEX1. Beyond its role in DNA repair, RPS3 participates in various cellular functions, including transcriptional regulation as part of the NF-kappa-B p65-p50 complex, modulation of spindle formation and chromosome movement during mitosis through regulation of microtubule polymerization, and induction of apoptosis through interactions with key apoptotic factors like CASP8 and E2F1. Additionally, RPS3 has been implicated in protecting TP53/p53 from MDM2-mediated ubiquitination and negatively regulating DNA repair in response to hydrogen peroxide exposure.

Caution: Product has not been fully validated for medical applications. For research use only.

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