

Recombinant Human SNRNP70, His-tagged

Cat. No. SNRNP70-227 **Lot. No.** (See product label)

SPECIFICATION

Product Overview

Recombinant Human U1-snRNP 68kDa (His-tagged) cDNA codes for the 70kDa isoform of the human U1-snRNP 68 protein (lacking 66 internal amino acids outside the known epitope-containing areas). The Calculated molecular weight is 44.8 kDa (U1-snRNP 68) displays aberrant electrophoretic mobility leading to an apparent discrepancy between calculated molecular weight and the 55-56 kDa molecular weight determined for this internally shortened molecule by SDS gel electrophoresis).

Species

Human

Source

E.coli

Description

Small nuclear ribonucleoprotein complexes (abbreviated as U-snRNP) are essential for splicing of precursor mRNA molecules. U1-snRNP is the most abundant RNP particle in the nucleus and consists of one small uridylate-rich RNA (U1 RNA) complexed with several proteins: the three 68/70 kDa, A, C polypeptides are unique to the U1-snRNP particle, whereas 7 so-called Sm proteins (B/B", D1, D2, D3, E, F, G) form a core subparticle that is common to all U-snRNP complexes. Both the U1-specific proteins and the Sm core particle are targets of autoantibodies which classically have been called the RNP and RNP-Sm specificities, respectively. A clean diagnostic distinction of these specificities has been complicated by the biochemical difficulties of producing clean subparticle fractions from native sources. The use of single recombinant proteins as antigenic targets guarantees a much higher sensitivity and specificity and is the only way to determine RNP antibodies sensu stricto without the disturbing influence of Sm antigens; also with single U1 proteins antibodies will be

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detected which can be missed because of steric hindrance when using the RNP-Sm complex in an assay. Autoantibodies to U1-snRNP are present in 95% of patients with Mixed Connective Tissue Disease (MCTD) and 30% of patients with SLE. Antibodies against the 68/70 kDa protein are known to have a high clinical significance in MCTD patients. The 68/70 kDa nomenclature of this protein refers to the fact that different splice variants of the protein are found in human cells.

Formulation	Recombinant Human U1-snRNP is supplied at a of 0.9mg/ml in 16mM HEPES buffer pH-8, 250mM sodium chloride, and 20% glycerol.
Immunological Functions	1. Binds IgG-type human auto-antibodies. 2. Standard ELISA test (checker-board analysis of positive/negative sera panels including CDC international reference sera).
Applications	Western-Blot with monoclonal anti-hexa-His-tag antibody & MCTD sera (Mixed Connective Tissue Disease).
Coating Concentration	0.3-0.6 µg/ml (depending on the type of ELISA plate and coating buffer). Suitable for biotinylation and iodination.
Also Available	U1 snRNP A, U1 snRNP B/B, U1 snRNP C
Purity	Greater than 90% (SDS-PAGE).
Storage Conditions	Store at 4°C if entire vial will be used within 2-4 weeks. Store, frozen at -20°C for longer periods of time. Avoid multiple freeze-thaw cycles.

GENE INFORMATION

Gene Name	SNRNP70 small nuclear ribonucleoprotein 70kDa (U1) [Homo sapiens]
Synonyms	SNRNP70; small nuclear ribonucleoprotein 70kDa (U1); RPU1; U1AP; U170K;

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U1RNP; RNP1Z; SNRP70; U1-70K; U1 small nuclear ribonucleoprotein 70 kDa; small nuclear ribonucleoprotein 70kDa (RNP antigen); U1AP1; U1RNP;snRNP70; U1 snRNP 70 kDa; small nuclear ribonucleoprotein 70kD polypeptide (RNP antigen); small nuclear ribonucleoprotein 70kDa; small nuclear ribonucleoprotein 70kDa polypeptide (RNP antigen)

Gene ID	6625
mRNA Refseq	NM_003089
Protein Refseq	NP_003080
MIM	180740
UniProt ID	P08621
Chromosome Location	19q13.3
Pathway	Influenza Infection; Gene Expression
Function	RNA binding; nucleotide binding; protein binding