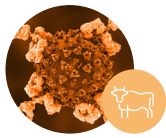


Product datasheet



ATRO1

RNP-Sm Native Antigen

Antigen overview

Autoantibodies directed against the snRNP (small nuclear ribonucleoprotein) autoantigens referred to as RNP and Sm were originally detected in the sera of systemic lupus erythematosus (SLE) patients¹. In mixed connective tissue disease (MCTD), anti-RNP antibodies are found in patient sera at high titre and in the absence of Sm^{1,2}.

Such autoantibodies are also known to occur in the sera of patients with a range of other rheumatic diseases including scleroderma, Gougerot-Sjögren's syndrome, polymyositis / dermatomyositis, systemic sclerosis, and rheumatoid arthritis².

The snRNPs are a group of nuclear particles comprised of several polypeptides associated with a small nuclear RNA molecule. The snRNPs make up the spliceosome, responsible for splicing precursor mRNA into mature mRNA^{3,4}.

Whereas autoantibodies directed against Sm are able to react with a wide range of snRNAs, RNP autoantibodies are only able to react with one particular type, referred to as U1snRNA.

Product name

RNP-Sm antigen

Description

Purified native protein

Source material

Calf thymus

Purity

>90% pure (by SDS-PAGE)

Anti-RNP antibodies react with the U1 snRNP-specific polypeptides (68K, A and C antigens) whereas anti-Sm antibodies react with polypeptides associated with U1 snRNP-specific polypeptides, plus U2, U5 and U4/U6 snRNAs (B, B', D, E, F and G antigens)⁴.

While the 68K polypeptide (also known RNP-70) constitutes the major MCTD RNP autoantigen, the major Sm autoantigen is represented by the D polypeptide^{5,6}.

Human RNP and Sm antigen sequences have a very high homology to bovine antigens, and calf thymus has long been used to detect the snRNP antigens in patient sera⁴.

The RNP-68K (present as a 33/35K doublet on SDS-PAGE) and Sm 19kDa to 10kDa polypeptides represent the most abundant components of AROTEC's RNP-Sm antigen. Other snRNP subunits (RNP-A, RNP-C) are also detectable. The antigen typically exhibits a 260nm/280nm absorbance ratio of >1.3, suggesting that a significant snRNA component is present.

Storage conditions & handling

- Store at -65°C or below
- Avoid repeated freezing and thawing
- Storage buffer contains 20% Glycerol as cryoprotectant
- Mix before use and keep on ice

Ordering information

ATRO1-02 - RNP-Sm antigen (native) - 0.20 mg

ATRO1-10 - RNP-Sm antigen (native) - 1.0 mg

Custom vial sizes available on request

Applications

Reactive in Western Blot and ELISA with anti-Sm and anti-RNP-Sm antibodies or anti-Sm and anti-RNP-Sm positive patient serum

Product profile

Fig 1 AROTEC RNP-Sm Antigen Titration

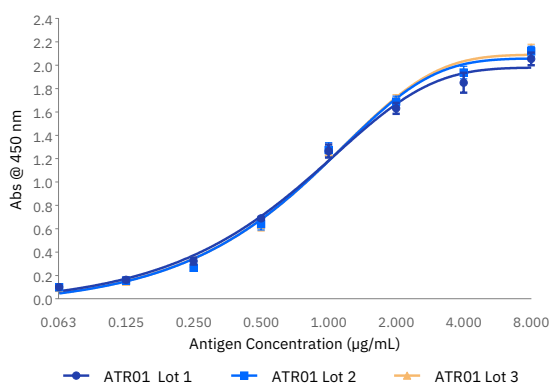


Fig 2

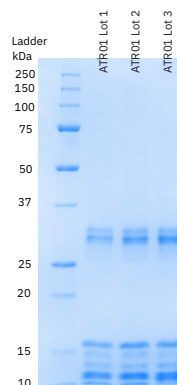


Fig 3

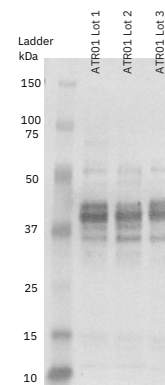


Fig.1. ELISA titration assay of ATR01 RNP-Sm antigen using patient serum (1:400 dilution)

Fig.2. SDS-PAGE of ATR01 RNP-Sm antigen; All lanes loaded with 2 µg protein concentration

Fig.3. Western Blot of ATR01 RNP-Sm antigen with positive patient serum (1:300 dilution)

References

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