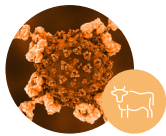


Product datasheet



ATS01 Scl-70 Native Antigen

Product name	Scl-70 antigen
Description	Purified native protein
Source material	Calf thymus
Purity	>90% pure (by SDS-PAGE)

Antigen overview

Scleroderma (progressive systemic sclerosis) is a systemic autoimmune disease characterised by collagen deposition and connective tissue destruction of the skin, blood vessels and certain internal organs¹. The prevalence of scleroderma has been estimated to be 1 per 5000².

Approximately 20-28% of scleroderma patient autoantibodies are against a nuclear protein referred to as Scl-70³. Anti-Scl-70 antibodies are found with a greater frequency in systemic sclerosis patients with proximal skin involvement than in systemic sclerosis patients with limited skin involvement⁴.

In 1986 the Scl-70 antigen was identified by Shero *et al.*⁵ to be the superhelical DNA-relaxing enzyme topoisomerase I. This report has since been confirmed by others^{6,7}.

The molecular weight of enzymatically-active topoisomerase I determined by SDS-electrophoresis has been reported to range from 67-100 kDa⁸. Data suggest that the 100 kDa form is the predominant form in vivo, and that the lower molecular weight

forms are due to proteolytic degradation⁹. Both the native and lower molecular weight forms have been shown to effectively bind anti-Scl-70 autoantibodies¹⁰.

The amino acid sequence of human Scl-70 antigen (DNA topoisomerase I) has been described after cloning and sequencing its cDNA¹¹. The deduced molecular weight of the mature protein is ~90 kDa; lower than the SDS-electrophoretic molecular weight. This may be due to post-translational processing or to anomalous electrophoretic behaviour of the protein. The protein was found to be very basic, with a calculated isoelectric point of 10.05, and to possess its catalytic activity within a 67.7 kDa C-terminal fragment.

The utility of the bovine antigen for the detection of autoantibodies to Scl-70 in patient sera has been demonstrated by several authors^{10,12-14}.

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

ATS01-02 - Scl-70 antigen (native) - 0.20 mg

ATS01-10 - Scl-70 antigen (native) - 1.0 mg

Custom pack sizes available on request

Applications

Reactive in Western Blot and ELISA with anti-Scl-70 antibodies or anti-Scl-70 positive patient serum

Product profile

Fig 1 AROTEC Scl-70 Antigen Titration

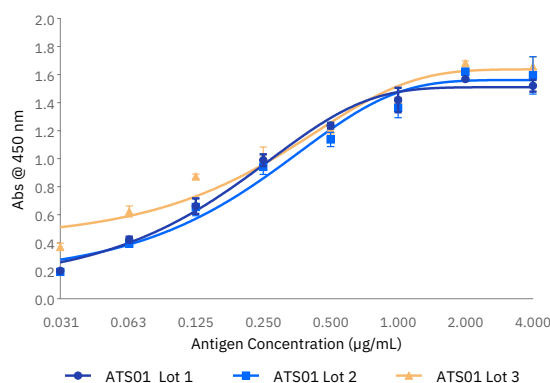


Fig 2

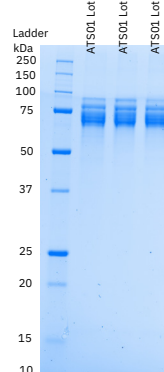


Fig 3

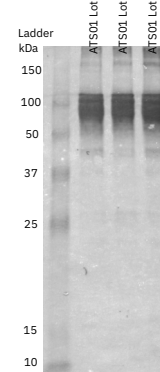


Fig.1. ELISA titration assay of ATS01 Scl-70 antigen using patient serum (1:800 dilution)

Fig.2. SDS-PAGE of ATS01 Scl-70 antigen; All lanes loaded with 1 µg protein concentration

Fig.3. Western Blot of ATS01 Scl-70 antigen with positive patient serum (1:300 dilution)

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