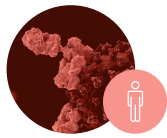


Product datasheet



ATG01 β2-Glycoprotein 1 Native Antigen

Product name	β2-Glycoprotein 1 antigen
Description	Purified native protein
Source material	Human plasma
Purity	>90% pure (by SDS-PAGE)

Antigen overview

Autoantibodies directed to negatively charged phospholipids, in particular cardiolipin, have been detected in the serum of patients with systemic lupus erythematosus (SLE) and antiphospholipid syndrome (APS)¹. APS is characterised by venous and arterial thrombosis, recurrent spontaneous abortions and thrombocytopenia.

It is now known that a serum cofactor, β2-Glycoprotein 1, is required for the binding of cardiolipin by autoantibodies in the sera of patients with APS²⁻⁴. By contrast, anticardiolipin antibodies from patients with infectious diseases (in particular, syphilis) do not require this cofactor⁵.

β2-Glycoprotein 1, also known as apolipoprotein H, is a relatively abundant serum protein (present at a concentration of about 0.2 mg/ml) that may play a role in coagulation⁶. It has been shown to bind to platelets⁷, mitochondria⁸ and negatively charged substances such as heparin⁹, DNA¹⁰, dextran sulphate¹¹ and negatively charged phospholipids¹².

β2-Glycoprotein 1 is known to be very heat stable². On SDS-PAGE the protein displays an apparent m.wt. of 45 kDa under non-reducing conditions and 55kDa upon reduction. Although isoelectric focussing has been reported¹³ to reveal genetic polymorphisms of β2-Glycoprotein 1, the multiple bands seen by this method may be due to different amounts of sialic acid¹⁴.

The amino acid sequence of β2-Glycoprotein 1 reveals a 326 amino acid protein of about 36 kDa¹⁵. This sequence has been confirmed by sequencing the protein's cDNA¹⁶. The fact that the protein migrates on SDS-electrophoresis with a much larger apparent m.wt. suggests that it is extensively glycosylated.

β2-Glycoprotein 1 has five consensus repeats, referred to as "Sushi domains", characteristic of the complement control protein family^{17,18}. The use of purified β2-Glycoprotein 1 for the detection of autoantibodies in human serum has been demonstrated by several authors¹⁹⁻³⁰.

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

ATG01-10 - β2-Glycoprotein 1 antigen (native) - 1.0 mg
Custom vial sizes available on request

Product profile

Fig 1 AROTEC β2-Glycoprotein 1 Antigen Titration

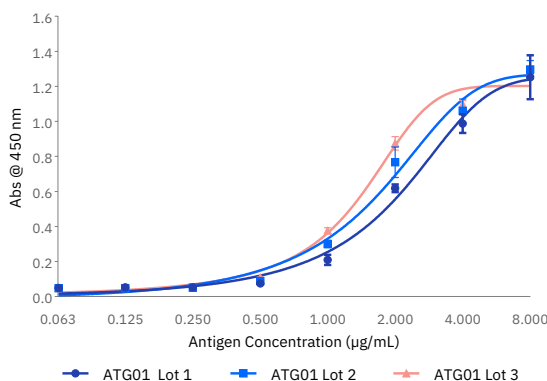


Fig 2

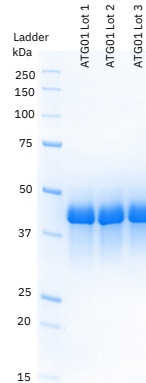


Fig.1. ELISA titration assay of ATG01 β2-Glycoprotein 1 antigen using positive patient serum (1:100 dilution)

Fig.2. SDS-PAGE of ATG01 β2-Glycoprotein 1 antigen; All lanes loaded with 2 µg protein concentration

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