

Histone (H1-enriched) Antigen - AHB01

Product Datasheet

Product information:

Product Name:	Histone (H1-enriched) antigen
Description:	Total Histone complex with 5 main Histones: H1, H2A, H2B, H3 and H4
Source Material:	Calf Thymus
Purity:	>90% pure (by SDS-PAGE)

Antigen Overview:

Histones are small DNA-binding proteins and the major protein component of the nucleosome. The nucleosome consists of 146 base pairs of DNA wrapped around an octamer of core histone proteins composed of a central tetramer of two H3-H4 dimers flanked by two H2A-H2B dimers⁸. Histone H1 is a linker histone, present between each nucleosome, and is responsible for establishing chromatin structure.

Autoantibodies against histones (AHAs) are observed in several autoimmune diseases. AHAs are reported in 50-80% of patients with Systemic Lupus Erythematosus (SLE), the highest being in patients with active disease¹. Although H1 and H2B are the most common epitopes in SLE, many SLE patients have conformation dependent AHAs directed against the histone complex². AHAs have clinical significance for drug-induced lupus, particularly in

the diagnosis of antinuclear antibody positive patients receiving procainamide, hydralazine and isoniazide³. AHAs are also prevalent in Felty's syndrome (83%), rheumatoid arthritis (75%) and juvenile arthritis (50-75%)², scleroderma^{4,5}, systemic sclerosis⁶ and mixed connective tissue disease⁷. AHAs (predominantly against H1) are also observed in approximately 76% of patients with primary biliary cirrhosis².

Histone amino acid sequences are highly conserved between species, even between animals and plants⁹. AROTEC histone antigen is prepared from the calf thymus nuclear fraction and contains the five main histones, H1, H2A, H2B, H3 and H4. AROTEC's AHB01 has been enriched with the H1 histone, the most common target for autoantibodies, to maximise reactivity against patient sera.

Ordering Information:

AHB01-02 - Histone antigen (native) - 0.20 mg

AHB01-10 - Histone antigen (native) - 1.0 mg

Custom pack sizes available on request

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

Applications:

After coating onto ELISA plates the product will bind autoantibodies to histone; recommended starting ELISA coating concentration 0.2 µg/well.

Positive on Western Blot using sample with autoantibodies to 5 major histones.

Product Profile:

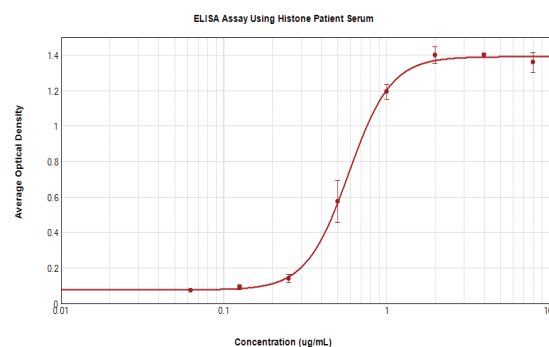


Fig. 1

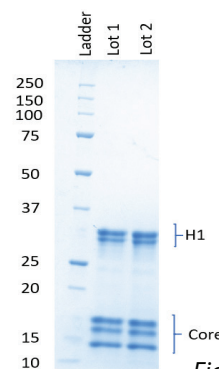


Fig. 2

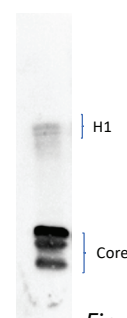


Fig. 3

Fig. 1. ELISA titration assay of AHB01 Histone antigen using Histone patient serum (1:200 dilution)

Fig. 2. SDS PAGE of AHB01 Histone antigen; Coomassie stained; 2µg/lane

Fig. 3. Western Blot of AHB01 Histone antigen with anti-Histone monoclonal antibody (1:500 dilution). Chemiluminescence detection

References:

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