PrEST Antigens
Immunogens in the generation of Triple A Polyclonals and PrecisA Monoclonals
Atlas Antibodies now provide you with the PrEST Antigens in the product catalog as a complement to our highly validated Triple A Polyclonals and PrecisA Monoclonals.

**Background**

The antibodies in Atlas Antibodies’ catalog are derived from recombinant human Protein Epitope Signature Tags (PrESTs). These recombinantly produced protein fragments consist of 50-150 amino acids, designed to have as low sequence identity as possible to other human proteins.

The protein fragments are expressed as fusion proteins with a dual tag consisting of a hexahistidyl (His₆) tag in frame with an immunopotentiating Albumin Binding Protein (ABP)-tag originating from Streptococcal Protein G.¹²

Atlas Antibodies and the Human Protein Atlas project (HPA)³⁴⁵⁶ use these PrEST Antigens for immunization. The resulting polyclonal antibodies are affinity purified against the corresponding PrEST Antigens in a three-step procedure to remove the tag-specific antibodies and to catch the PrEST-specific antibodies⁷.

**PrEST Design**

The 50-150 protein specific fragments are selected using a proprietary software to contain unique epitopes present in the native protein suitable for triggering the generation of antibodies of high specificity⁸. This is achieved by a complete human genome scanning to ensure that regions with the lowest homology to other human proteins are used as antigens for the generation of antibodies. In addition, signal peptides and membrane regions are avoided in the design.

The use of fragments of 50-150 amino acid residues facilitates cloning and protein expression and also provides conformational epitopes that could not be obtained using shorter peptides.

**PrEST Antigen Production**

For cloning of the PrESTs, a pool of RNA consisting of material from a number of human tissues is used in an RT-PCR approach. The amplified gene fragments are cloned and sequence verified. An *E. coli* recombinant protein expression system is used for expressing the clones and the products are purified using nickel-containing matrices (IMAC).

**PrEST Antigen Validation and Quality Control**

The expressed PrEST Antigens are validated using ESI mass spectrometry. Purity is analyzed using SDS page and the PrEST Antigen amount is being quantified using the Nanodrop system.
PrEST Antigens in pre-adsorption assays

IHC staining results following pre-adsorption of antibody with corresponding PrEST Antigen

- PrEST + PrEST

**Anti-**SOX11, HPA000536
SRY (sex determining region Y)-box 11
Mantle cell lymphoma
Bone marrow

**Anti-PLA2R1, AMAb90772**
Phospholipase A2 receptor 1
Kidney
Cerebellum

**Anti-CD44, HPA005785**
CD44 molecule
Skin
Stomach

**Anti-AQP4, AMAb90537**
Aquaporin 4
Cerebral cortex
Stomach

WB results following pre-adsorption of antibody with corresponding PrEST Antigen

- PrEST + PrEST

**Anti-STAT3, HPA001671**
Signal transducer and activator of transcription 3
RT-4

**Anti-ALDH1A2, HPA010022**
Aldehyde dehydrogenase 1 family, member A2
Liver

PrEST Antigens as positive control in Western Blot

**Anti-AQP4, HPA014784**
Aquaporin 4
References


Selected customer references for PrEST Antigens used in pre-adsorption assays


atlasantibodies.com

Our website provides you with easy access to all characterization data, and online ordering via our web shop. You can also send your order to order@atlasantibodies.com.

Or send an e-mail to support@atlasantibodies.com to discuss any matters regarding use of antibodies. You’ll find we’re Totally Human.