

## Streptavidin-linked HLA Antibody Detection Technology



In this issue we will highlight [biotinylated soluble HLA Reagents](#) and the use of custom solutions for improved immunodiagnostic assay procedures to measure HLA Antibodies in a simple Sandwich ELISA.

### PRODUCT DESCRIPTION

HLA IMMUNOASSAY is a cutting edge validation technology that uses single antigens for solid phase antibody detection. In order to enable more accurate studies on the function and behavior of HLA antibodies where validation of antibodies is critical, Pure Protein has created an ELISA-based protocol that can be used for both basic and translational research as well as for clinical applications.

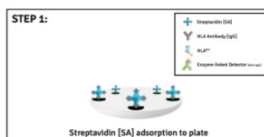
Streptavidin-linked HLA ELISA (Enzyme-linked immunosorbent assay) applications are a simple, cost-effective technique performed using single-specificity biotinylated soluble HLA (sHLA) proteins to determine the presence of an HLA antibody in a sample. Pure Protein has developed the world's largest collection of biotinylated sHLA Class I and II proteins with over [250 proteins](#).

This Sandwich ELISA approach utilizes multiple-well microtiter plates coated with streptavidin to capture biotinylated sHLA Class I and II proteins. These immobilized and functionally intact proteins serve as targets for test HLA antibodies which can be monoclonal, polyclonal or sera-derived. Depending on the species and subtype of the test antibody, a suitable secondary antibody must be applied to generate a detection signal. For this matter, the platform is extremely flexible in the choice of detection modalities. Chosen correctly, secondary antibodies can offer significant advantages such as increased sensitivity through the signal amplification and greater flexibility in labeling and detection options.

### How it Works

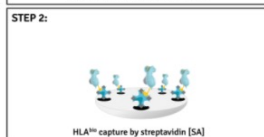
#### Step 1: Plate Preparation

Preparation of multiple-well microtiter plates coated with streptavidin to capture biotinylated sHLA Class I and II proteins.



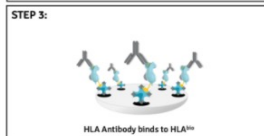
#### Step 2: HLA Allele loading

Loading of the biotinylated sHLA reagent of your choice serving as antibody targets



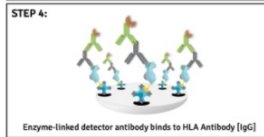
#### Step 3: Sample Addition

Addition of HLA antibody sample using serial dilutions



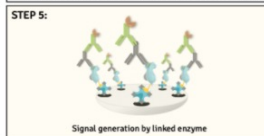
#### Step 4: Detector Application

Addition of appropriate 2<sup>nd</sup> antibody conjugated with a colorimetric, fluorescent, or chemiluminescent component to generate a detection signal



#### Step 4: Signal Generation

Colorimetric, fluorescent, or chemiluminescent response development read by a suitable detection system [ELISA Reader] for data capturing



### SELECT YOUR BIOTINYLATED sHLA REAGENTS

### 10 Reasons to use an HLA Immunodiagnostic ELISA Assay

- 1) Verify monoclonal HLA antibodies before engaging in functional studies of HLA Class I and Class II antigens
- 2) Use verified monoclonal HLA antibodies as reference to validate HLA antibody detection assays in quality control procedures
- 3) Quantitate monoclonal HLA antibodies to create standards for HLA antibody detection assays
- 4) Perform structural analysis or antigenicity evaluation on HLA proteins by using your previously validated monoclonal antibodies
- 5) Confirm the presence of an HLA eplet with a defined HLA monoclonal antibody to determine the eplet's clinical relevance
- 6) Design Sandwich ELISA procedures using properly validated monoclonal HLA antibodies to detect HLA Class I and Class II antigens from various origins
- 7) Use target verified monoclonal HLA antibodies as standards to determine kinetic parameters (on-rates / off-rates) or affinity constants (KD) for HLA/antibody interactions in Surface Plasmon Resonance (SPR) procedures or other kinetic assay methods
- 8) Examine and validate your selected monoclonal HLA antibodies before performing affinity purification of HLA from tissues extracts or cell culture supernatants
- 9) Validate your monoclonal HLA antibodies before executing cell surface staining of HLA Class I and Class II molecules using flow cytometry
- 10) Qualify your monoclonal HLA antibodies before performing immunohistochemical staining in order to determine HLA surface expression and tissue distribution in normal or cancer tissues or cell lines

It's not too late to access the HLA Peptide Target Discover webinar!



**WEBINAR**

**HLA Peptide Target Discovery - Mitigating Risk In Target Selection**

Tuesday, May 18, 2021  
10:00 AM CDT

[REGISTER](#)

Meet our Researchers



William Hildebrand, PhD  
Chief Scientist



Curtis McMurtry, PhD  
Director of Immunoproteomics



Saghar Kaabinejad, PharmD, PhD,  
Director of Immuno-Oncology



Reo Buchli, PhD  
Director of Research

Pure Protein company, [Pure MHC, LLC](#), hosted a digital event, "HLA Peptide Target Discovery - Mitigating Risk in Target Selection" where our scientists shared data and learnings drawn from decades of experience identifying and validating HLA peptide targets for therapeutic development. To view the recorded webinar - [click below](#).

[ACCESS WEBINAR](#)

Be sure to follow HLA Protein on LinkedIn:

