

Biotinylated antigens

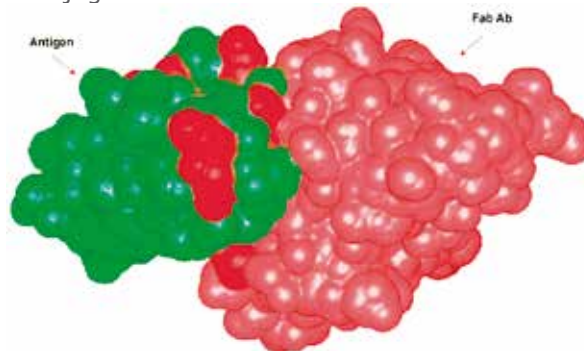
In many ways, a conjugated antigen can be the solution to different problems arisen in a new IVD test development. A common problem caused by most of the surfaces is protein denaturation due to the relatively high surface by hydrophobicity. Additionally, there may be larger steric influence on binding events due to the close proximity of the surface and the sensor molecules. The specific orientation may also improve the stability of attached proteins and increase the sensitivity of the assay by exposure of its antigenic regions.

Conventional conjugation methods generally work well with antibodies; however, results with many antigens of less well-established structures are less constant. This is probably the main reason why double-antigen sandwich ELISAs are not as commonly used for antibody detection as indirect ELISA and blocking ELISA.

To circumvent the effect on antigenic structure caused by conventional chemical conjugation that could result in decrease in sensitivity of DAS-ELISAs, Rekom Biotech has developed a product line of biotinylated antigens, offering to our customers the possibility to buy their favourite antigen but conjugated in its C-terminus. This molecule allows the specific interaction of the biotinylated antigens to the streptavidin protein.

Why biotinylated?

The biotin is fused to a linker which maintains the molecule away to the antigen surface, avoiding steric hindrance between the biotin and the antigenic regions involved in Ab-binding. Thus, the Ab interaction will not be compromised with the conjugation.

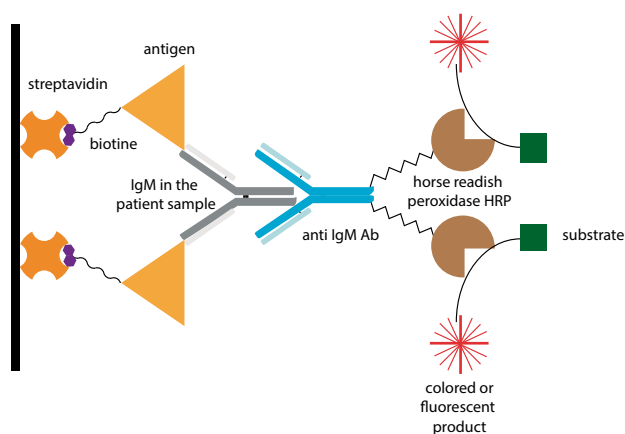


Interaction between an antigen (green) vs Fab region of an Ab (pink). In red are specified the amino acids that usually are used in conjugation procedures. Some of these amino acids are part of the epitope region of the antigen. The conjugation would interfere with the Ab-binding, decreasing the antigenic capacity of the bio-marker.

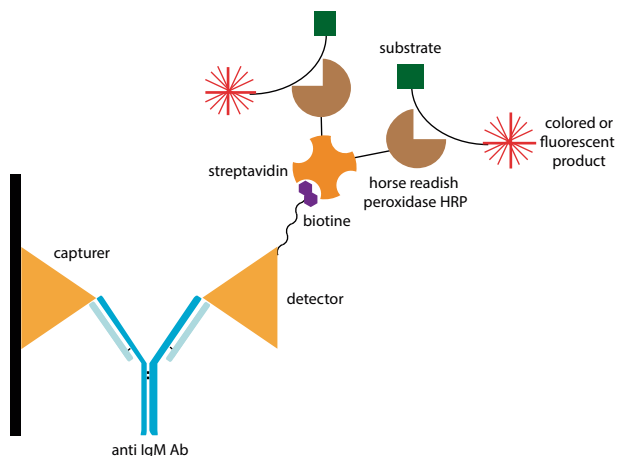
As there is just one biotin per protein molecule, our conjugated bio-markers will show a higher inter-lot reproducibility and this will facilitate the reproducibility of our customers IVD test also.

Biotinylated applications

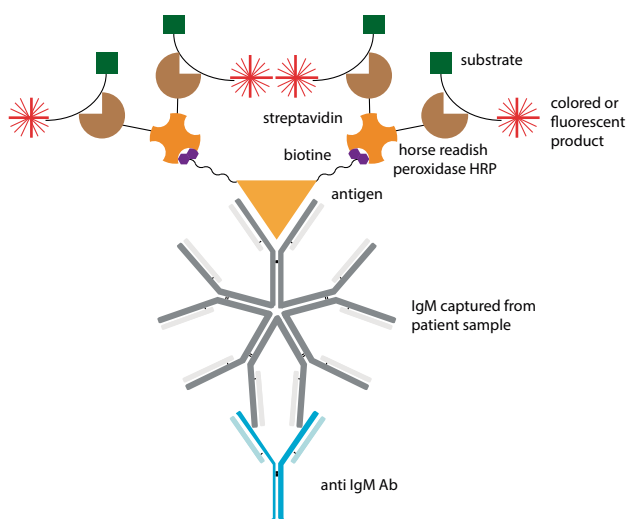
Antigen orientation in streptavidin-coated plates.



Detection in DAS assays.



Detection in IgM capture assays.



Bonding to gold and other nanoparticles coated with streptavidin.

