The **perfect fit** for your process

CaptureSelect® – custom designed affinity ligands for any purification challenge

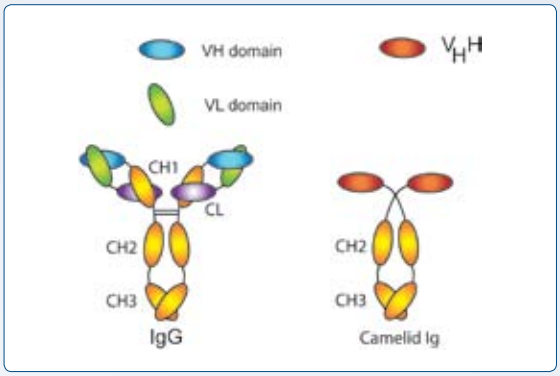
The **Affinity** Experts

The **perfect fit** for your process

CaptureSelect® technology enables new opportunities in the biotherapeutic purification field. BAC has developed a unique affinity ligand discovery program, which has proven itself for a wide variety of target biotherapeutic compounds, ranging from antibodies and antibody fragments, recombinant and plasma proteins to viral particles. CaptureSelect ligands (single domain [VHH] antibody fragments) can be developed for almost any purification challenge, and offer numerous advantages, some of which are listed below.

Advantages

- 12-15 kDa fragment (~1/10th mAb)
- Tunable specificity
- Suitable for both scavenging and purification
- Quick discovery and scale up
- No animal-derived components



FROM TARGET TO LEAD LIGAND IN LESS THAN 8 MONTHS

A typical Custom Ligand Design Program can be divided into three phases:

TARGET LIBRARY	Immunization with target Construction of ligand expression libraries
LEAD IDENTIFICATION	Library screening at monoclonal level Test of binding, specificity, elution and stability
LEAD OPTIMIZATION	Cloning into yeast expression system Small scale affinity chromatography

After selection of the lead ligands BAC will work together with the customer and a media vendor to produce a cGMP compatible resin, including a Regulatory Support File.

In many cases an antigen library may already be available from BAC, in which case the first phase of the study would not need to be performed.

CASE STUDIES

Over the past years we have generated a multitude of high-affinity ligands targeting different antigens including the most abundant plasma proteins and blood factors, and ligands targeting antibodies or antibody fragments. Our products are being used both in Europe and in the US for production of Clinical Trial Material (CTM). The versatility of our proprietary ligand discovery platform is demonstrated in the case studies below.

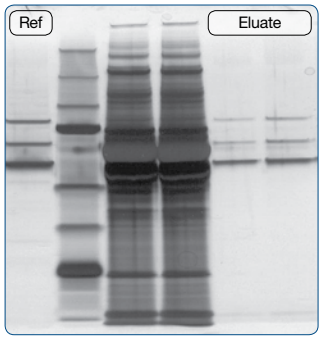
VIRUSES

AAV (1-3, 5)
AVB Sepharose HP*

AAV is an important non-immunogenic virus used as a gene therapy vector.

The 4-step purification process was cumbersome and not scalable, and included CsCl gradient density centrifugation.

We discovered and developed a ligand that allowed for a **single-step scalable process with improved purity.**

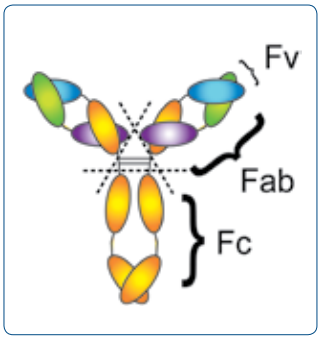


ANTIBODIES

Fab lambda/kappa

Antibody fragments, especially Fabs, are receiving increased attention as potential biopharmaceuticals.

No plug-and-play chromatography media existed for antibody fragments.
We developed affinity ligands for lambda and kappa antibody fragments and created two unique affinity chromatography resins designed for the purification of Fab antibody fragments, **enabling an efficient, high purity and high yield capture step.**

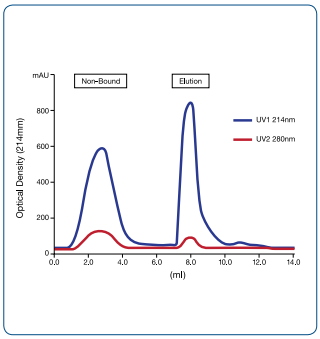


PROTEINS

rhFactor VIII
VIIISelect*

VIIISelect is an affinity chromatography medium designed for the purification of recombinant factor VIII, used for the treatment of Hemophilia A.

We were able to develop a product that not only showed superior purity over conventional methods but was also able to **elute at mild conditions** preserving the stability of the FactorVIII product.



*AVB Sepharose High Performance (HP) and VIIISelect are products distributed by GE Healthcare Life Sciences (http://www.gelifesciences.com) as part of their customized chromatography media.

The **platform** solution for the affinity purification of biopharmaceuticals:

- Increase yield
- Reduce process steps
- Increase product purity
- Increase product stability with mild elution conditions
- Animal component-free production system

The **Affinity** Experts

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