

Affinity capture purification solutions for novel antibody modalities

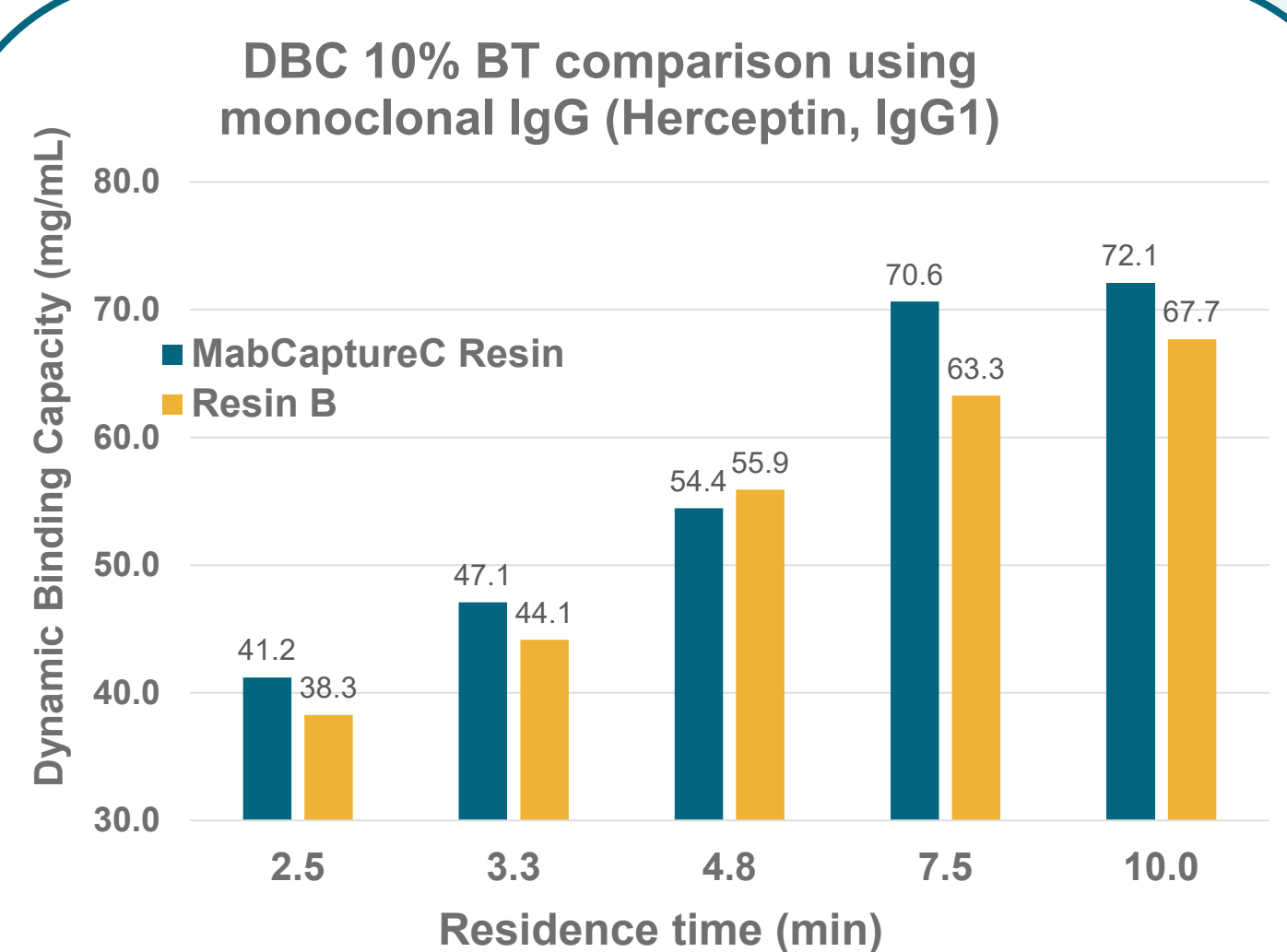
Introduction

Therapeutic monoclonal antibodies (mAbs) are tailored biopharmaceuticals used for diagnosis and treatment of a wide range of diseases. While Protein A resins have long been the standard for mAb purification, the increasing variety of therapeutic antibody formats in development has driven the need for additional affinity purification solutions. This poster delves into Thermo Scientific™ MabCaptureC High Capacity Protein A affinity resin and Thermo Scientific™ CaptureSelect™ affinity resins explicitly created for purifying various antibody modalities.

MabCaptureC™ Affinity Matrix

High-performance Protein A resin specifically designed to improve the purification efficiency of mAbs with intact Protein A binding sites.

- High binding capacity
- Alkali stable
- Excellent pressure-flow characteristics
- Uniform bead size
- Excellent scalability

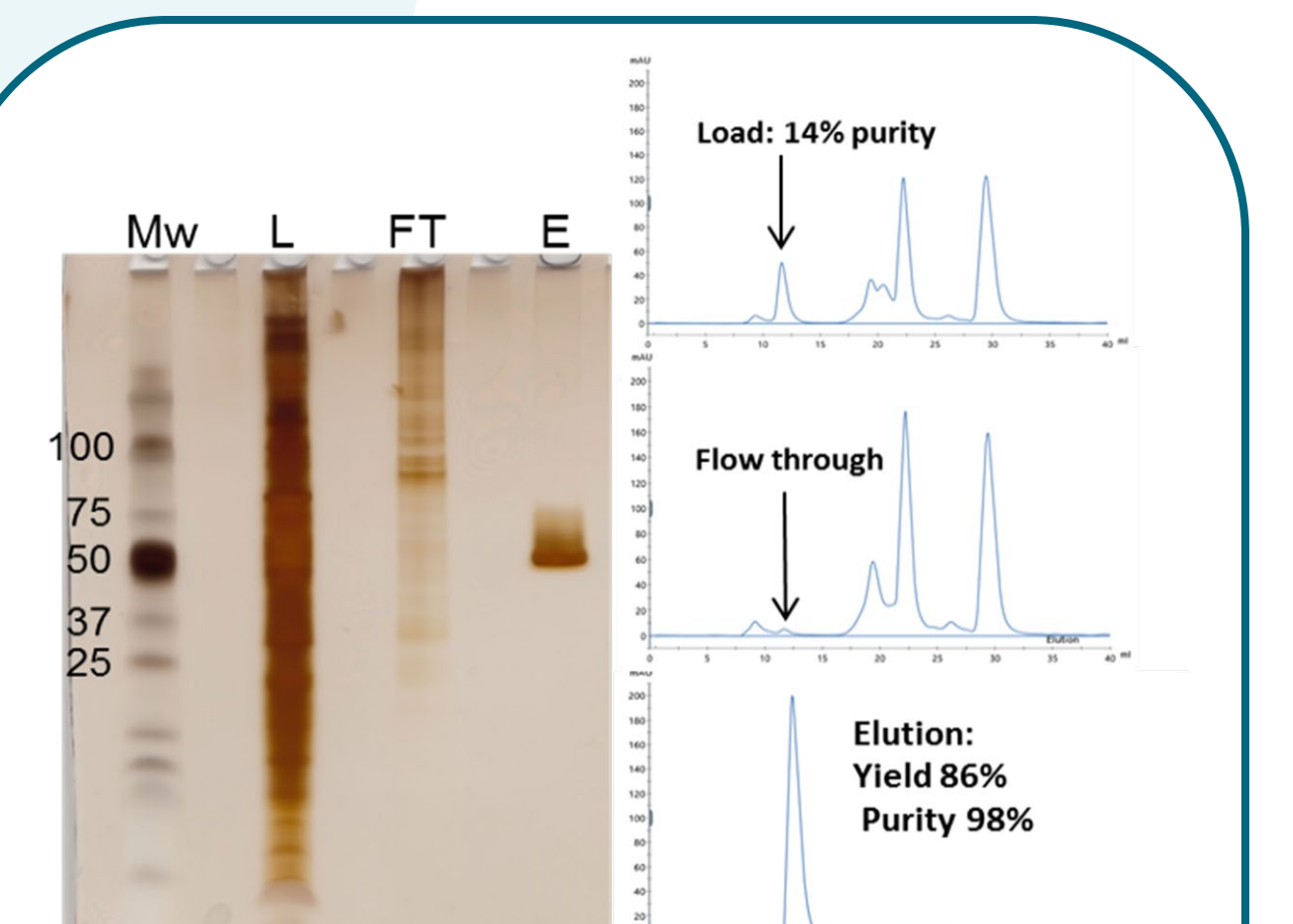


MabCaptureC Dynamic Binding Capacity comparison at increasing residence times. The resin was compared to commercially available, alternative Protein A resin (Resin B).

CaptureSelect™ CH1-XL Affinity Matrix

A scalable purification solution specifically designed to purify Fab fragments.

- No co-purification of free light chains or incorrectly assembled Fab fragments
- Efficient elution at mild pH



Ranibizumab feed from HEK293 cells (Fab fragment). Purification using CaptureSelect CH1-XL resin shows high yield and purity in a single step.

Left: SDS-PAGE silver staining of the load (L), flow-through (FT) and elution (E) fractions, showing no presence of light chains in the elution pool.

Right: Gel filtration analysis showing 98% purity of the Fab fragment in the elution fraction with a yield of 86%.

CaptureSelect™ FcXP Affinity Matrix

Platform purification solution designed for Fc-fusion proteins and chimeric antibodies

- Enabling a platform for antibody molecules lacking or having an altered Protein A binding site
- Efficient elution at mild pH

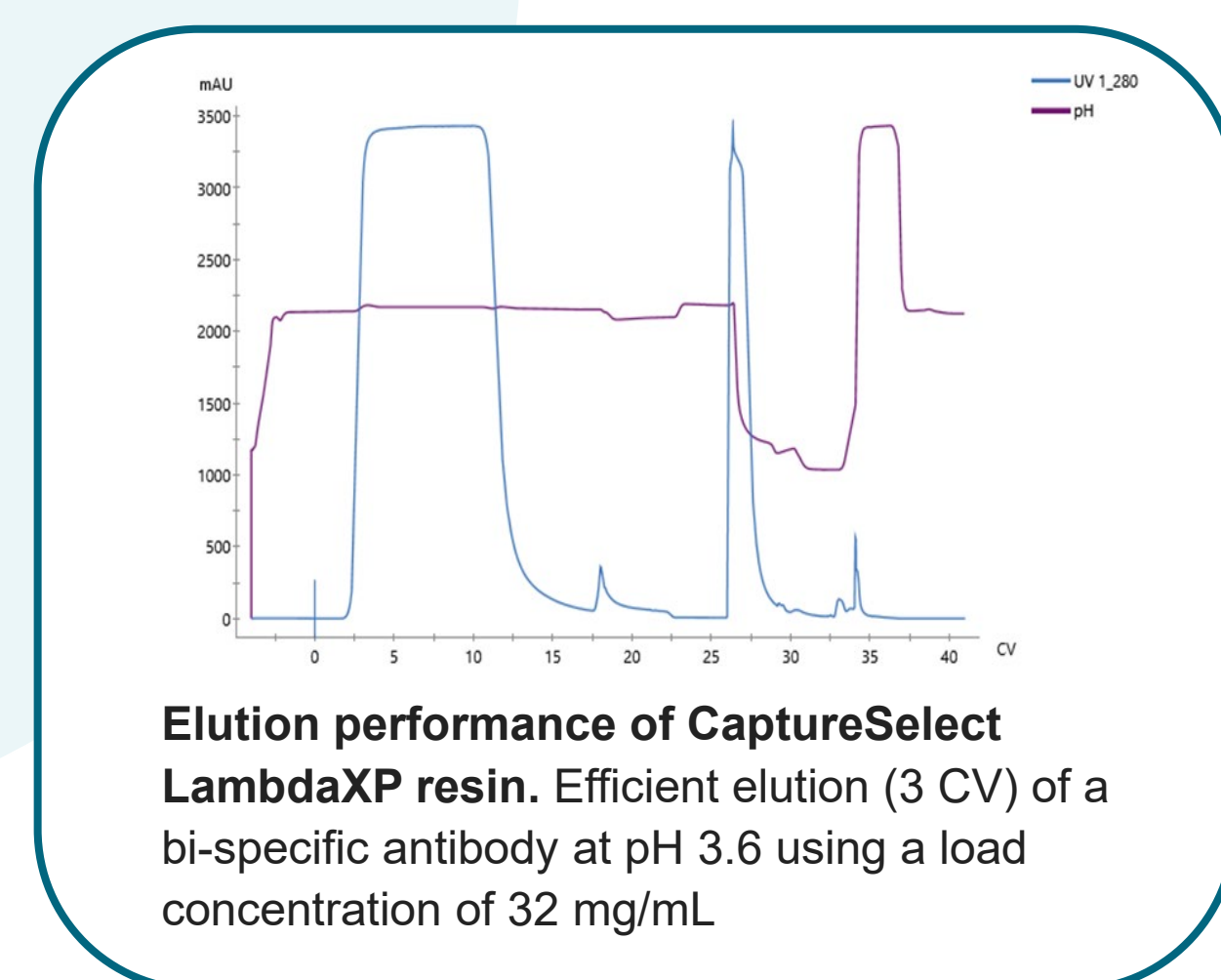


CaptureSelect FcXP purification of Rituximab (IgG1) from crude material with high purity. Overexpressed light chain dimers are present in the flow through (FT) but not in the elution fraction (E). ST = strip pH 2.

CaptureSelect™ KappaXP Affinity Matrix & CaptureSelect™ LambdaXP Affinity Matrix

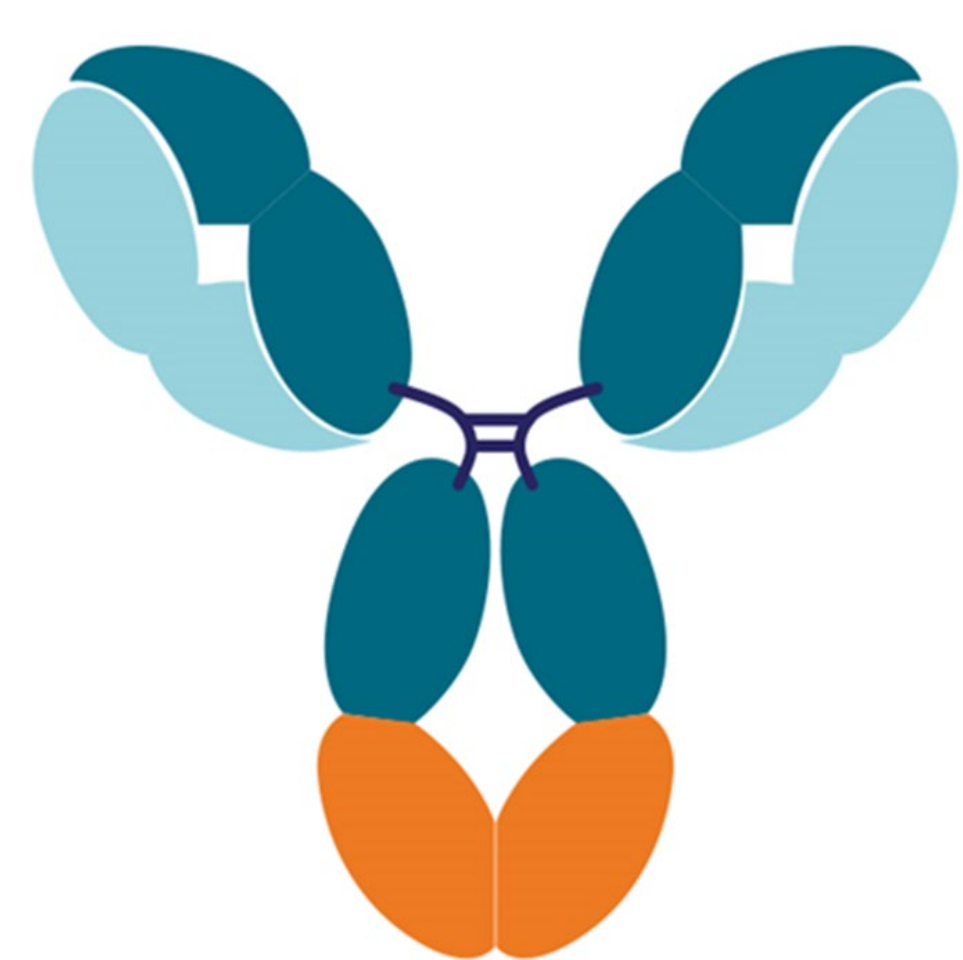
Solving purification challenges for bi-specific antibody formats.

- Affinity for C_L-Kappa or C_L-Lambda domains
- High Dynamic Binding Capacity
- Efficient elution at milder pH



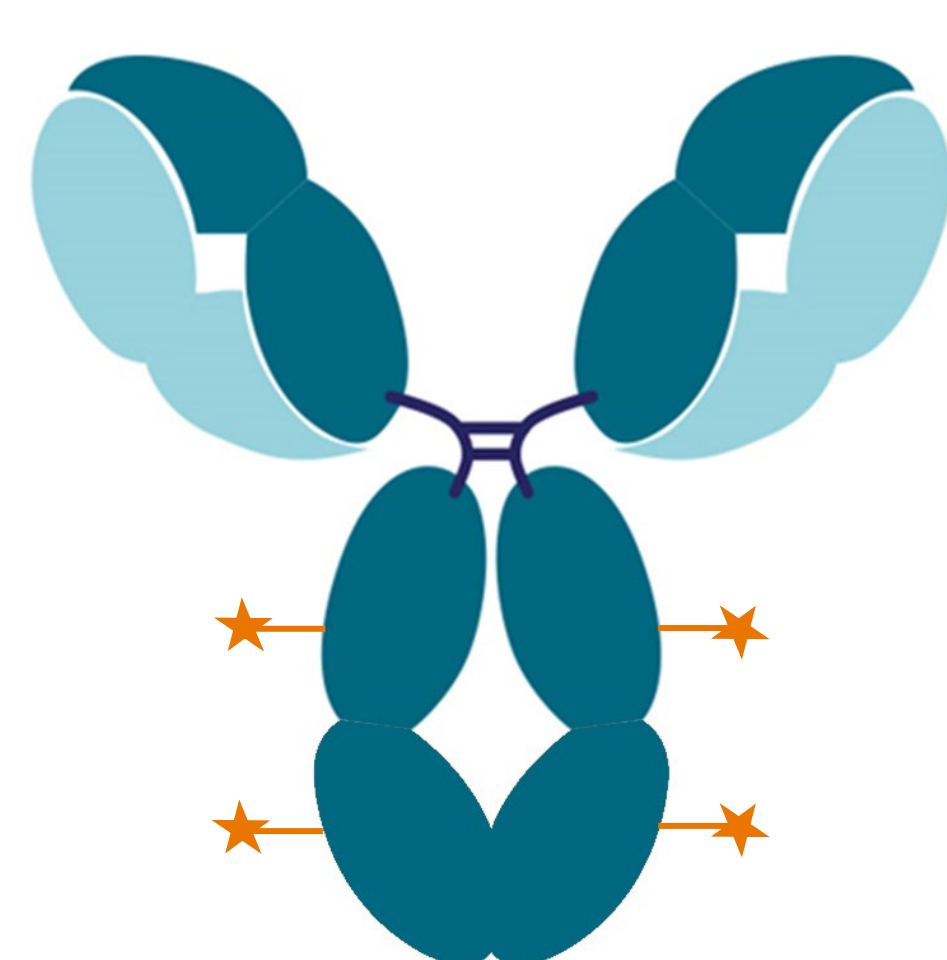
Elution performance of CaptureSelect LambdaXP resin. Efficient elution (3 CV) of a bi-specific antibody at pH 3.6 using a load concentration of 32 mg/mL.

AFFINITY RESINS FOR EACH ANTIBODY MODALITY



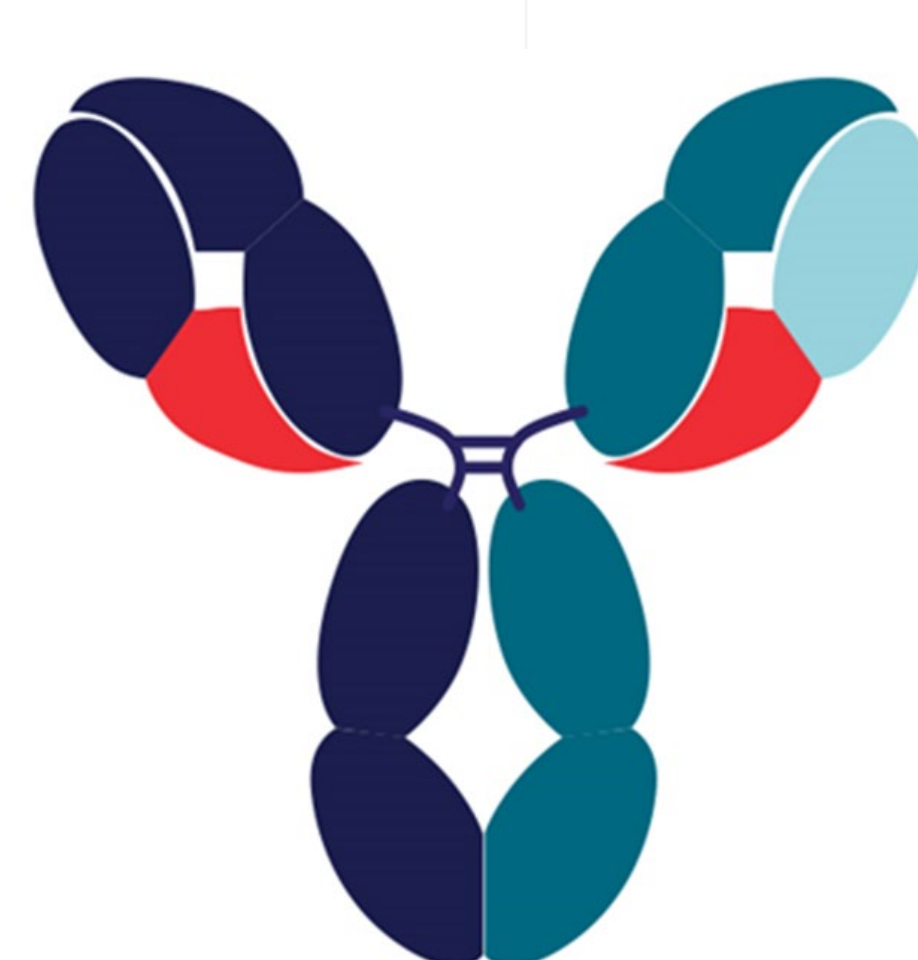
Standard antibody

MabCaptureC (ProA)
CaptureSelect FcXP



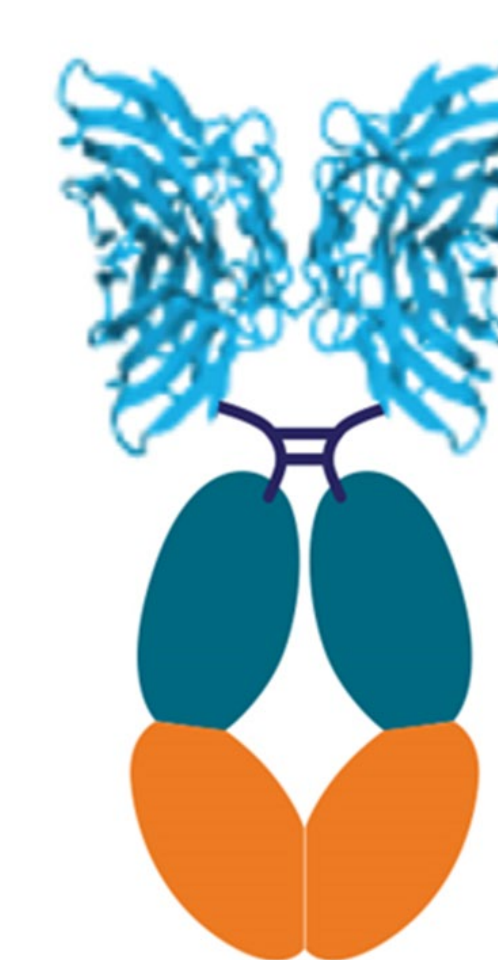
Antibody-drug conjugates

MabCaptureC(ProA)
CaptureSelect FcXP



Bi-specific antibodies

CaptureSelect FcXP
CaptureSelect CH1-XL
CaptureSelect KappaXP
CaptureSelect LambdaXP
MabCaptureC (ProA)



Fc-fusion proteins

CaptureSelect FcXP
MabCaptureC (ProA)



Fab fragments

CaptureSelect CH1-XL
CaptureSelect KappaXP
CaptureSelect LambdaXP
MabCaptureC (Fab w V_H3)

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