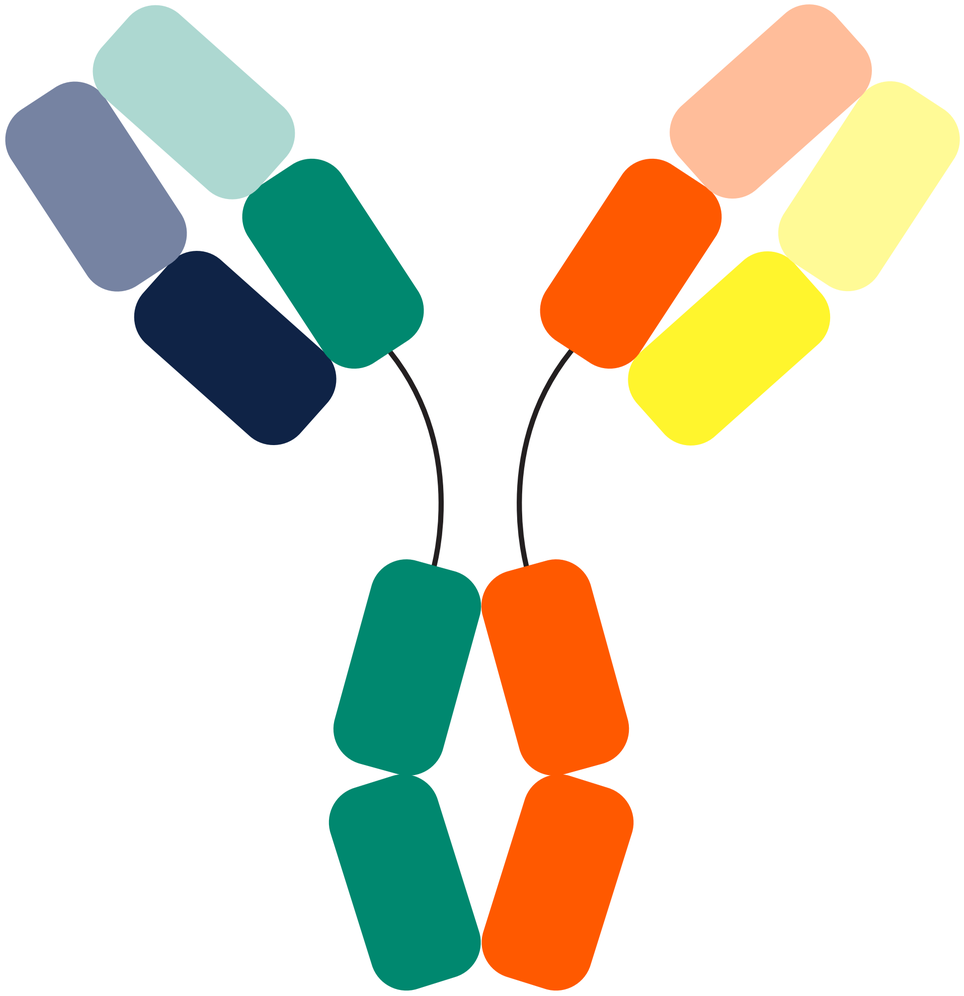
Select an affinity chromatography resin for your antibody

Monoclonal antibody (mAb)

Bispecific antibody (bsAb)

Antibody fragment



cytiva

Diversification of antibody molecules requires a toolbox of resins

Development beyond traditional monoclonal antibodies (mAbs) are increasing, and today, we see antibody variants like multispecific and bispecific antibodies and antibody fragments.

In mAb processing, affinity chromatography is used to capture the target molecule based on specific interactions between the chromatography resin and the target molecule. For traditional mAbs, protein A chromatography is used to capture antibodies. Depending on the structure of the target antibody and the impurity profile, other affinities, like protein L or variants of protein A, may improve purity and increase removal of impurities. This guide helps you to select a capture resin based on the target molecule.

Click on the molecule that you would like to select resin for:

1 Monoclonal antibody (mAb)

2 Bispecific antibody (bsAb)

3 Antibody fragment

1. Affinity resins for traditional mAbs

Monoclonal antibody (mAb) → **MabSelect PrismA™ resin**

Note: Evaluation in experimental trials is always needed to determine the optimal resin. Affinity for Fibro™ PrismA adsorber will be the same as for MabSelect PrismA resin, the use for Fibro versus resin will depend on the process scenarios such as batch size, frequency of producing, clinical phase, etc.

2. Affinity resins for bsAb

bsAb

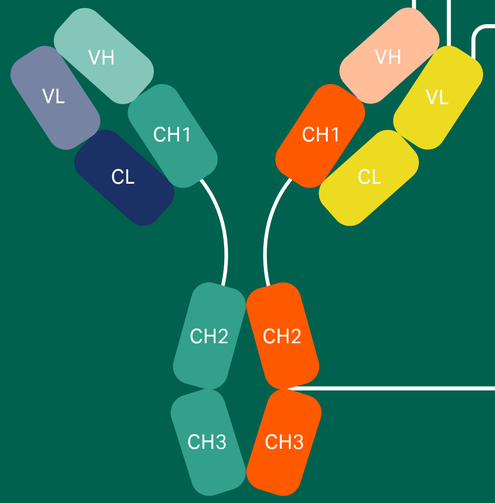
Domains not known

Symmetric

Asymmetric

Screen/evaluate
a) MabSelect PrismA resin
b) MabSelect™ VH3 resin
c) MabSelect VL resin

Find differences between the different parts of the molecule to enable separation of target and impurities



VH3 sequence family on one arm → **MabSelect VH3 resin**

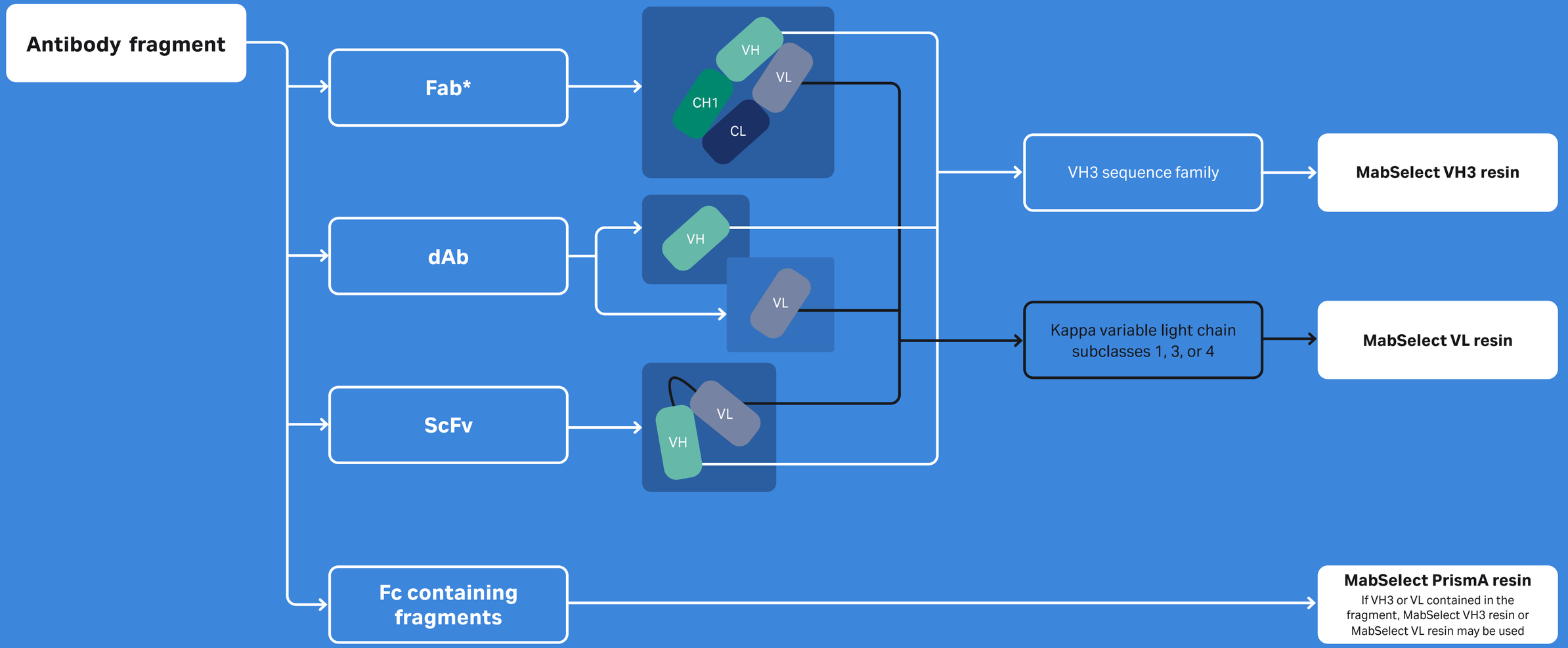
Kappa light chain subclasses 1, 3, and 4 on one arm and lambda light chain on the other → **MabSelect VL resin**

Kappa light chain subclasses 1, 3, and 4 on one arm and kappa light chain subclass 2 on the other → **MabSelect VL resin**

Fc chain knocked on one heavy chain → **MabSelect SuRe™ LX resin**
If no VH3 on any of the arms use:
MabSelect PrismA resin

Note: Evaluation in experimental trials is always needed to determine the optimal resin. Affinity for Fibro PrismA adsorber will be the same as for MabSelect PrismA resin, the use for Fibro versus resin will depend on the process scenarios such as batch size, frequency of producing, clinical phase, etc.

3. Affinity resins for antibody fragments



* For bispecific fragments: differences between different parts of the molecules can be utilized to separate target and product related impurities.

Cytiva resins for antibody purification

MabSelect PrismA resin

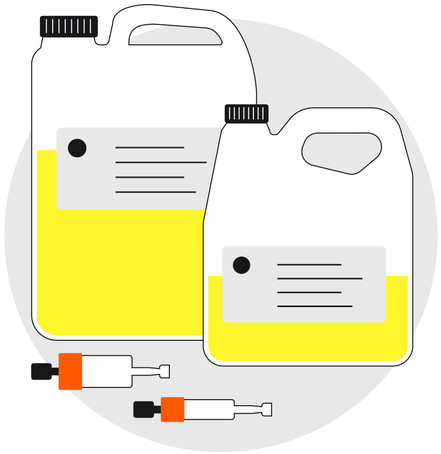
MabSelect PrismA protein A affinity chromatography resin has an optimized high-flow base matrix and an engineered protein A-derived ligand.

- Enhanced dynamic binding capacity allows high mass throughput in processing of monoclonal antibodies (mAb) and many bispecific antibodies (bsAb).
- Excellent alkaline stability enables efficient cleaning and sanitization using 0.5–1.0 M NaOH for improved process economy and bioburden control.
- High throughput purification and productive processes.

MabSelect VH3 resin

MabSelect VH3 affinity resin uses an engineered protein A resin that interacts only with the variable heavy chain containing the VH3 sequence family. The traditional Fc interaction is removed.

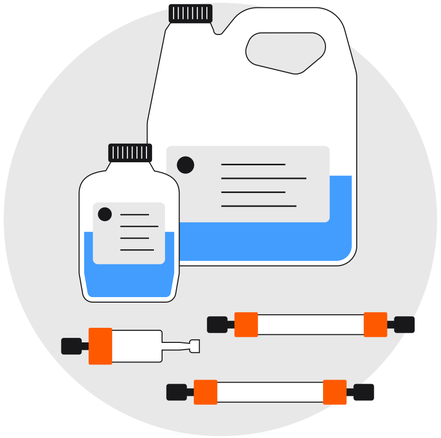
- High binding capacity for antibody fragments and enhanced binding for bispecific antibodies containing VH3 sequence family.
- High alkaline stability – stable when cleaned with 0.5 M NaOH, reducing risk for bioburden incidents and providing long resins life time.
- Provides good resolution for product-related impurities in the capture of asymmetric bispecific antibodies with VH3 sequence family on one arm.



MabSelect VL resin

MabSelect VL resin with a redesigned protein L ligand provides high binding capacity and improved alkaline stability.

- High dynamic binding capacity protein L resin for efficient capture of antibody fragments and bispecific antibodies containing a kappa light chain.
- Stable when cleaned with 0.1 M NaOH, reducing risk for bioburden incidents.
- Provides good resolution for product-related impurities in the capture of asymmetric bispecific antibodies with kappa light chain subclasses 1, 3, and 4 on one arm.



Capto™ polishing resins

Capto™ chromatography resins give you high productivity through high binding capacity, high flow rates, and efficient impurity clearance. The high chemical stability of Capto resins let you perform cleaning-in-place procedures with ease.

Capto resins or prepacked columns are suitable for many applications, including the purification of mAb, Fab antibodies, and bsAb. Use our online selector to choose the most suitable resin or column:

- Ion exchange chromatography (IEX)
- Hydrophobic interaction chromatography (HIC)
- Multimodal (mixed mode) chromatography (MMC)

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