

Purification made simple

Research & Laboratory | ProcessDevelopment | BioprocessProduction



AMICOGEN Inc. was established in 2000 as a company specialized in gene evolution technology and has successfully commercialized industrial specialty enzymes and enzyme-based new Bio-ingredient.

Our vision is to become as a global leader in industrial biotechnology. We have developed specialty enzymes and other industrial enzymes that are required in the market by using **AMICOGEN** technology. In addition, we produce health functional raw materials and finished products with GMP standard.

Recently, we extend our business into protein purification business and commercialized antibody purification resin for protein medicine. In 2017, we contracted an exclusive sales agreement with **Bio-Works Technologies AB**, a Swedish biotech company, for high grade protein purification resins. We will expand our resin to Korea, Japan, China and India.



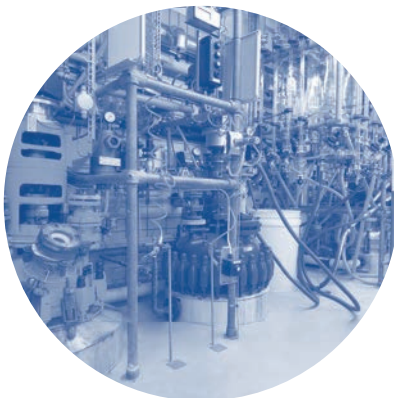
OUR TECHNOLOGY

Agarose bead technology has for many years been an essential research and production tool for the purification of proteins and other biomolecules.

WorkBeads™ are our line of high performance agarose based purification resins for life science research, biopharma and other biotech industries. The resins are robust giving high selectivity, reproducibility and performance, resulting in increased capacity and productivity.

SEAMLESSLY SCALABLE

Our WorkBeads are optimized to give the same great results working in small scale as well as large scale bioprocess. This allows you to expect reproducible results whether you are using a small prepacked BabyBio™ 1 ml column or packing your own bioprocess column.

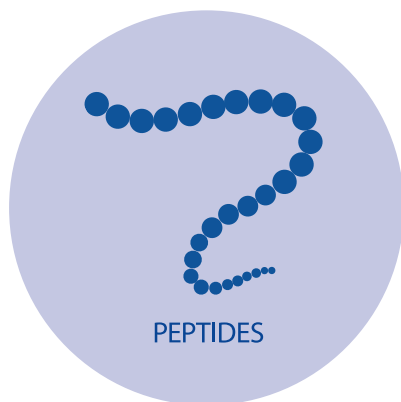


MANUFACTURING PERFORMANCE

Bio-Works production meets your needs today and in the future. Our experience in agarose chemistry and long-term commitment to our technology ensures that we continuously expand our broad product line.

Our production and R&D departments are located in the same facility, this enables us to offer high flexibility and great technical service. In other words, we have the capacity and knowledge to develop and manufacture a large range of products optimized for your application.

Applications and techniques



ION EXCHANGE CHROMATOGRAPHY (IEX)

Our IEX resins are designed for optimal selectivity, resolution and high dynamic binding capacity.

Ideal for proteins, peptides and oligonucleotides. WorkBeads provide excellent results for large peptides, particularly insulin.

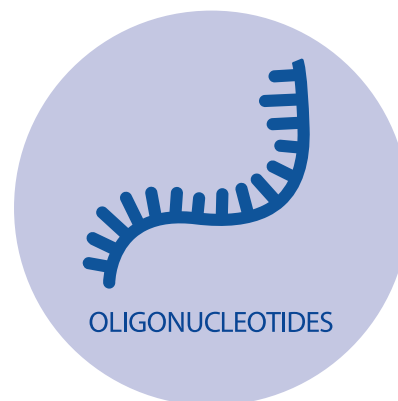
Functional group alternatives: S, Q, DEAE, TREN

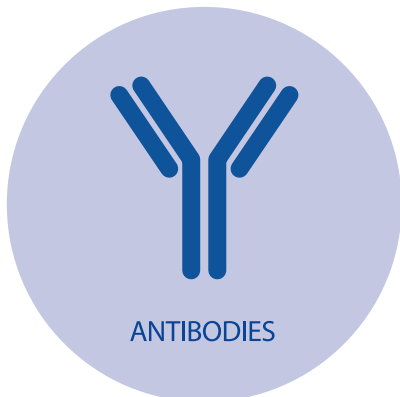
DESALTING AND BUFFER EXCHANGE

Our prepacked BabyBio Dsalt columns are designed for rapid and efficient desalting and buffer exchange of protein solutions.

Rapid buffer exchange can rescue antibodies following low-pH elution from a Protein A column.

Product alternative: *BabyBio Dsalt*





AFFINITY CHROMATOGRAPHY (AC)

WorkBeads Protein A is designed to give high purity and recovery of antibodies. The well-established agarose matrix has robust chemical stability and gives high binding capacity for both monoclonal and polyclonal antibodies.

Our ACT resins offer reliable coupling chemistry and are ideal for coupling of specific custom designed resins.

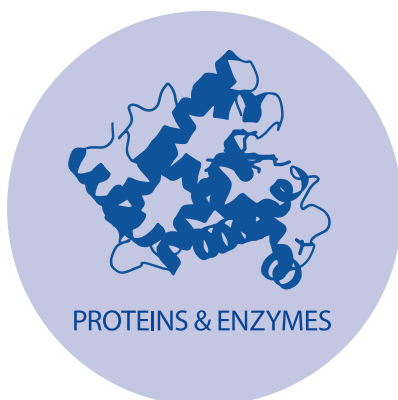
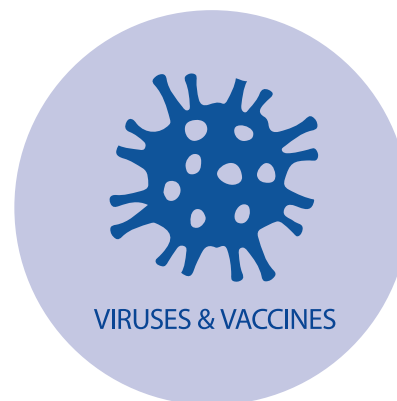
Functional group alternatives: *Protein A, ACT*

SIZE EXCLUSION CHROMATOGRAPHY (SEC)

Our SEC resins are produced from agarose using a proprietary cross-linking method that results in a highly porous and physically stable agarose matrix.

Designed for size separation of a broad range of target molecules, including viruses and vaccines.

Product alternatives: *WorkBeads 40/100, 40/1000, 40/10 000 SEC*



IMMOBILIZED METAL ION AFFINITY CHROMATOGRAPHY

We offer a wide range of IMAC resins for specific purification of His-tagged proteins. These resins provide high selectivity, purity and yield. In total there are eight different combinations of chelating ligands precharged with metal ions available for convenient purification optimization. We also offer uncharged NTA and IDA WorkBeads for customized metal interactions.

Product alternatives: *NTA and IDA uncharged, or precharged with Ni²⁺, Co²⁺, Cu²⁺, Zn²⁺*

WorkBeads *our bottled resins*

WorkBeads high performance resins operate at higher pressures and flow rates than most other agarose resins due to optimized cross-linking technology.

- Designed to be scalable from lab to production
- Efficient separation due to the narrow particle size distribution
- High chemical stability for easy cleaning-in-place
- Reliable and reproducible results
- High throughput and purity



ION EXCHANGE CHROMATOGRAPHY (IEX)

WorkBeads 40S

WorkBeads 40Q

WorkBeads 40 DEAE

WorkBeads 40 TREN

WorkBeads 100S

Workbeads 100Q

AFFINITY CHROMATOGRAPHY (AC)

WorkBeads Protein A

WorkBeads 40/1000 ACT

WorkBeads 40/10 000 ACT

SIZE EXCLUSION CHROMATOGRAPHY (SEC)

WorkBeads 40/100 SEC

WorkBeads 40/1000 SEC

WorkBeads 40/10 000 SEC

IMMOBILIZED METAL ION AFFINITY CHROMATOGRAPHY (IMAC)

WorkBeads 40 NTA

WorkBeads 40 Ni-NTA

WorkBeads 40 Co-NTA

WorkBeads 40 Cu-IDA

WorkBeads 40 Zn-NTA

WorkBeads 40 IDA

WorkBeads 40 Ni-IDA

WorkBeads 40 Co-IDA

WorkBeads 40 Cu-IDA

WorkBeads 40 Zn-IDA

Antibody purification

our bottled resins

Our antibody purification system is capable of harvesting and recovering high purity monoclonal antibodies and Fc fusion proteins with economical performance.



Purification

ProA™ rProtein A Agarose resin

ProG™ rProtein G Agarose resin

ProL™ rProtein L Agarose resin

Immunoprecipitation

ProA™ rProtein A Agarose resin (IP)

ProG™ rProtein G Agarose resin (IP)

ProA/G™ rProtein A/G Agarose resin (IP)

Recombinant Protein

rProtein A

rProtein G

Others

Binding buffer

Elution buffer

Neutralization buffer

Antibody purification kit

OptioBio *our prepacked glass columns*

NEW! OptioBio™ 40S 10×100 & OptioBio 40Q 10×100

The prepacked OptioBio columns are available with two different ion exchange resins, WorkBeads 40S, a strong cation exchanger and WorkBeads 40Q, a strong anion exchanger. These resins are designed for high performance research and industrial scale purifications of proteins, peptides and nucleic acids.

Column dimensions, 10 × 100 mm, 7.9 ml.

- Prepacked for reliable and reproducible results
- Optimal for high performance small scale purification and method optimization in bioprocess development
- Glass columns allow for easy checking and control of the packed bed performance
- High throughput, purity and binding capacity



ION EXCHANGE CHROMATOGRAPHY (IEX)

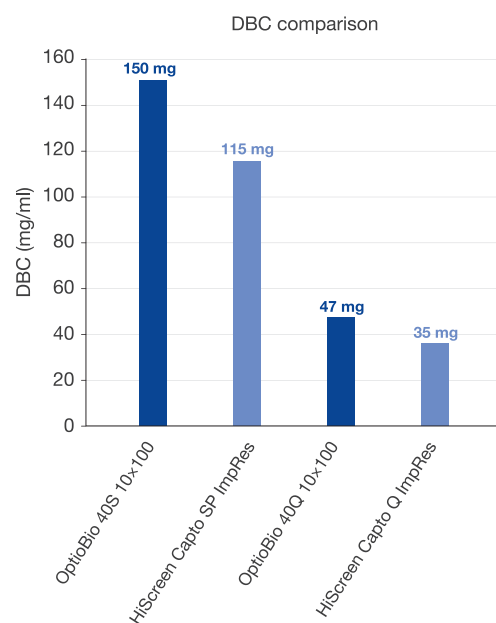
OptioBio 40S 10×100

OptioBio 40Q 10×100

Dynamic binding capacity study

A study comparing dynamic binding capacity (DBC) on similar prepacked columns available on the market has been performed. The graph illustrates the difference in DBC using bovine serum albumin (BSA). The same conditions were applied for all columns.

The results show 34-30% higher dynamic binding capacities for OptioBio 40S and 40Q, compared to Capto™ SP and Q ImpRes prepacked in HiScreen™ columns.



Running conditions

OptioBio 40S 10x100 & HiScreen Capto SP ImpRes

Sample: 2 mg/ml BSA in binding buffer
Binding buffer: 20 mM Na-citrate, pH 4.0
Elution buffer: 50 mM Tris-HCl, pH 8.0
Flow rate: 2 ml/min (150 cm/h), OptioBio
1.16 ml/min (150 cm/h), HiScreen
Residence time: 4 min

OptioBio 40Q 10x100 & HiScreen Capto Q ImpRes

Sample: 1 mg/ml BSA
Binding buffer: 50 mM Tris-HCl, 50 mM NaCl, pH 8.0
Elution buffer: 50 mM Tris-HCl, 1 M NaCl pH 8.0
Flow rate: 2 ml/min (150 cm/h), OptioBio
1.16 ml/min (150 cm/h), HiScreen
Residence time: 4 min

For more information please visit:

www.bio-works.com/optiobio40s10x1001

www.bio-works.com/optiobio40q10x1001

HiScreen and Capto are trademarks of General Electric Company.

BabyBio *our prepacked 1 ml and 5 ml columns*

Our line of ready to use BabyBio columns are professionally packed with high performance WorkBeads.

- Up-to date format design, including innovative frits for unclarified sample handling
- Simple and faster purification of proteins and biomolecules
- Flexible capacity by connecting up to 5 columns in series
- Easy methods giving reproducible results
- High binding capacity and purity



ION EXCHANGE CHROMATOGRAPHY (IEX)

BabyBio S

BabyBio Q

BabyBio DEAE

BabyBio TREN

AFFINITY CHROMATOGRAPHY (AC)

BabyBio A

BabyBio ACT

DESALTING/BUFFER EXCHANGE

BabyBio Dsalt

IMMOBILIZED METAL ION AFFINITY CHROMATOGRAPHY (IMAC)

BabyBio NTA

BabyBio Ni-NTA

BabyBio Co-NTA

BabyBio Cu-NTA

BabyBio Zn-NTA

BabyBio NTA His-tag Screening kit (Ni²⁺, Co²⁺, Cu²⁺, Zn²⁺)

BabyBio IDA

BabyBio Ni-IDA

BabyBio Co-IDA

BabyBio Cu-IDA

BabyBio Zn-IDA

BabyBio IDA His-tag Screening kit (Ni²⁺, Co²⁺, Cu²⁺, Zn²⁺)

Since 2006, Bio-Works has focused on the development and manufacture of innovative agarose based resins used to separate proteins and other biomolecules.

Today, our research, development and production facilities are located in Uppsala, Sweden and we have worldwide distribution. We help customers achieve their purification goals, from laboratory research to large scale bioprocess production.

Our ambition is to make purification simple.



*We believe in sustainability and care about the environment.
Please give me to a friend or recycle me.*

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