



WorkBeads Custom Resins

WorkBeads - Next generation chromatography resins WorkBeads™ are Bio-Works' advanced agarose-based resins, designed for purification of biomolecules. They are produced in several different bead sizes and porosities for both preparative research and bioprocess manufacturing scales. This allows seamless scalability and reproducible results.

WorkBeads - Custom Resins

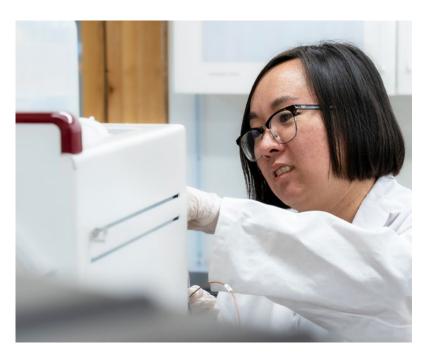
Biologics have become more and more diverse. The emergence of new technologies at the forefront of new drug development, e.g. gene therapy, is driving a demand for tailor-made solutions and cutting-edge expertise throughout the biopharma industry.

When off-the-shelf products don't meet your needs, our specialists can design a solution. We work with you to develop and produce a resin that fulfils your requirements regarding binding capacity, selectivity, and regulatory support documentation. We give you the flexibility to choose your own ligand, one of our ligands, or a third party ligand.

Bio-Works strategy when designing custom resins

- Projects/batches: Small scale to large scale
- Design the resin at your desired level; from scratch or from a subset of choices
- Experienced team with significant in-house knowledge
- Access to the know-how of the people that develop and manufacture the resins
- Transparency and communication throughout the process
- Final resin can be delivered as bulk or in a prepacked format
- Delivery of regulatory support documents if needed

A custom resin developed precisely for your target molecule and process!



What is involved in customizing a resin?

Step 1 (5 min) \longrightarrow Step 2 (5–8 weeks) \longrightarrow Step 3 (7–10 weeks) \longrightarrow Step 4 (6+ months)			
Custom request	Prototype development	Process definition	Commercialization
 CDA signing Answer a questionnaire (≈ 6 questions) Build contact 	 Meeting for technical discussion (go/no go) Experimental design Proposal and quote Prototype synthesis Feedback & evaluate 	Process optimizationSet formulaQuality assayScale up testing	 Tech transfer Process validation & SOF Stability studies CoA & Regulatory support package (optional)

Design your own resin

Bead and pores size Linker (length and composition) Ligand (design and density)

Bead size

- Large capture step (> 65 µm)
- Mid capture/ enhancement step (40 ~ 65 µm)
- Small polish step (< 40 µm)

Pore size (globular protein exclusion limit)

- 100 kDa cut-off
- 1000 kDa cut-off
- 10 000 kDa cut-off
- 30 000 kDa cut-off

Linker

- Length
- Atom composition

Ligand

- · Your ligand of choice
- Concentration immobilized on the beads

Ligand choice - basically anything with affinity for a specific target

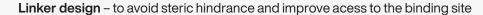
Proteins enzymes, antibodies, antigens

Oligonucleotides/aptamers oligo (d)T – mRNA; aptamers – AAV

Peptides antibodies

Ligand coupling - compatible functional groups on ligand and resin

Amino
 Thiol
 Hydroxyl group
 Aldehyde
 Amino
 SH
 of common
 functional
 groups



Nature of linker
 e.g. carbon chain, poly ether bridge

Length of linker depends on the ligand and the accessability

of the target binding site





WorkBeads resins are available in a variety of formats for research, process development, scale-up and production. Bulk packages are available from 25 mL up to 10 L. GoBio prepacked formats enable turnkey operation in both lab and process-scale environments.

