Biozym
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BluePippin™

Size Selection for Protein MS

Targeted Protein Collection Using Automated Preparative Electrophoresis

Benefits:

- Reduces complexity of protein samples
- Highly reproducible collection of a target fraction from protein samples
- Flexible programming
- Just minutes of hands-on time

Specifications:

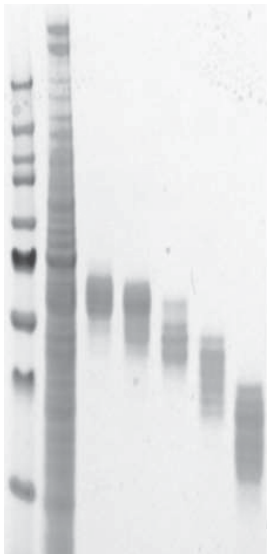
- Agarose SDS gel electrophoresis
- Target collections between:
  18- 80 kDa (5% agarose)
  50 - 200 kDa (3% agarose)
- Maximum sample load = 350 µg
- Run times = 1-2 hours

1. Enter a kDa target range in software

kDa Target	kDa Start	kDa End
40	30	50
50	25	75

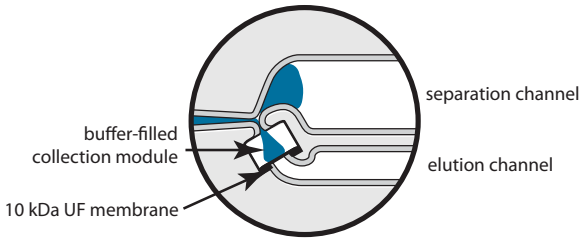
The BluePippin System

2. Load 4 protein samples into a disposable pre-cast gel cassette.

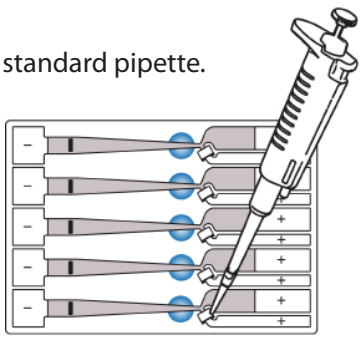


PAGE analysis of fractions collected with a BluePippin. The input total protein (liver lysate) sample is shown on the left

3. Proteins are separated by size, and the target fraction is electro-eluted from the gel column.



4. Collect the target fractions, in SDS-buffer, with a standard pipette.



sage science

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SAMPLE FRACTIONATION PRODUCTS FOR MASS SPEC

Sage Science has developed two systems for automated preparative electrophoresis of protein samples. These products provide increased reproducibility and ease-of-use for procedures that require gel isolation of proteins, including top-down and bottom-up proteomics studies, and tageted protein analysis for mass spectrometry.

In both systems, the user simply loads samples into precast gel cassettes, programs desired collection ranges into instrument software, and starts the run. At run completion, the user removes the eluted protein fraction(s) from membrane-bound wells within the cassette. The fractionated samples are recovered in SDS buffer – no gel extraction or is required. Instrument software controls the timing of protein fractionation using input from on-board optical detection units, which monitor the progress of fluorescently-labeled molecular weight markers during electrophoresis. The systems use SDS agarose gels as the separation matrix, and size-fractionated proteins are recovered in SDS gel buffer. 5% agarose gels are used for proteins 18-80 kDa in size, and 3% agarose gel are used for sample 50-200 kDa in size.

The systems provide the following fractionation strategies:

The BluePippin: Targeted Protein Collection

Based on Sage's existing BluePippin system for DNA size selection, this tool allows users to enter a kDa target in software, and collect the proteins in that range at the end of the run. The BluePippin protein cassettes are useful for collecting one or two targeted protein fractions from each sample (up to five samples per run.

The Sage ELF: Multi-fractionation of Protein Samples

The Sage ELF (for Electrophoretic Lateral Fractionator) features a cassette system designed to fractionate a protein sample into twelve contiguous size fractions. Users load a single protein sample onto a gel cassette, set a range threshold in software, and the twelve fractions are simultaneously electro-eluted from a separation gel column.

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