





PurKine™ GST-Tag Glutathione Resin

Cat #: BMR2010

Size: 5 mL/25 mL

	GST-Tag Glutathione Resin, crosslinked 4% agarose		
	Cat #: BMR2010		Lot #: Refer to product label
	Capacity: >20 mg GST protein/mL (40 kDa)		Bead size: 45-165 µm
	Tolerance: 0.1 MPa, 1 bar		Buffer: PBS containing 20% ethanol
	Storage: Stable for 12 months at 4°C from date of shipment		

Assay Principle

PurKine™ GST-Tag Glutathione Resin can purify glutathione S-transferase (GST), glutathione-dependent protein and recombinant derivatives of glutathione transferase expressed by various expression systems in one step. Glutathione Resin was prepared by covalent bonding of reduced glutathione with 12-atom spacer arms on 4% agarose. With the special design, the purification efficiency of the resin is improved, and the resin binding capacity was more than 20 mg GST-fusion proteins. Glutathione Resin has the characteristics of high binding capacity, good specificity and cost-effective.

Reagent Preparation

Water and chemicals used for buffer preparation should be of high purity. It is recommended to filter all buffers before use by passing through a 0.22 µm or 0.45 µm filter. For most proteins, the following buffer are recommended:

Binding/Wash Buffer: 140 mM NaCl, 2.7 mM KCl, 10 mM Na₂HPO₄, 1.8 mM KH₂PO₄, pH 7.4;

Elution Buffer: 50 mM Tris-HCl, 10 mM Glutathione, pH 8.0;

Note: 1-10 mM DTT can be included in the Binding and Elution Buffer to increase purity. However, this may result in lower yield of target protein.

Sample Preparation

The sample should be centrifuged and/or filtered through a 0.22 µm or 0.45 µm filter before it is applied to the medium to reduce impurities, improve protein purification efficiency and prevent clogging the column. Be careful not to exceed the resin's binding capacity.

Procedure for Sample Purification

1. Pack column with an appropriate amount of Glutathione Resin. Add 5 resin-bed volumes of Binding Buffer to the column. Equilibrate the column (make the Glutathione Resin in the same buffer system as the target protein to protect the protein). Allow buffer to drain from the column.
2. Add the prepared protein extract to the resin. (In order to improve the recovery rate of the target protein, the adding speed was controlled to ensure the full contact between the target protein and resin).

Note: Collect the flow-through which can be analyzed by SDS-PAGE.

3. Add 10-15 resin-bed volumes of Wash Buffer to the column to remove the non-specific adsorption protein. Pay attention to collecting the flow-through.
4. Add 5-10 resin-bed volumes of Elution Buffer to the column to wash the target protein. The collected eluate is the target protein solution.
5. Add 3 resin-bed volumes of Binding Buffer and 5 resin-bed volume deionized water to the column in turn to equilibrate the Glutathione Resin. Store resin in an equal volume of PBS containing 20% ethanol at 2-8°C to prevent the resin from being contaminated by bacteria.
6. The flow-through, eluted protein and prepared protein extract can be directly analyzed by SDS-PAGE to test the purification effect.

Glutathione Resin Cleaning

The Glutathione resin can be reused without regeneration. However, with the increase of non-specifically bound proteins and the aggregation of proteins, the flow rate and binding capacity performance often decrease, so it is necessary to clean the resin.

To removal of precipitated or denatured substances: Wash with 2 resin-bed volume of 6 M guanidine hydrochloride, immediately followed by 5 resin-bed volumes of PBS, pH 7.4.

To remove some nonspecific adsorption substances caused by hydrophobic adsorption: Wash with 3~4 resin-bed volume of 70% ethanol or 2 resin-bed volumes of 1% Triton™ X-100, immediately followed by 5 resin-bed volumes of PBS, pH 7.4.

Recommended Products

Catalog No.	Product Name
KTP2010	PurKine™ GST-Tag Protein Purification Kit (Glutathione)
ABT2030	Anti-GST Tag Mouse Monoclonal Antibody (2A8)
KTP2030	PurKine™ Biotin-Tag Protein Purification Kit (Streptavidin)
KTP2001	PurKine™ His-Tag Protein Purification Kit (Ni-NTA)
KTP2020	PurKine™ MBP-Tag Protein Purification Kit (Dextrin)
KTP2140	PurKine™ Endotoxin Removal Kit (Polymyxin B)

Disclaimer

The reagent is only used in the field of scientific research, not suitable for clinical diagnosis or other purposes.