

# GlasPac/GS™

Tools for Molecular Biology

## QuickKit™

GlasPac/GS kits are offered in response to researchers who primarily extract DNA or RNA from agarose gels or solutions, but do not need the alkaline lysis reagents included in our MaxiPlas/GlasPac QuickKit.

GlasPac/GS QuickKits have been designed to provide a fast, simple and economical system for extraction, purification and concentration of ds/ss DNA or RNA. Effective nucleic acid extraction can be accomplished from TAE or TBE agarose gels and from all enzymatic reaction solutions. GlasPac/GS QuickKits utilize GlasPac, our high-binding glass suspension, and two specifically designed reagents to purify nucleic acids from proteins, enzymes, unincorporated radionucleotides, ethidium bromide or solvents.

### Protocols:

Three GlasPac/GS protocols have been developed as described below:

- (a) GlasPac purification of DNA, ranging from 200 to 20,000bp, from agarose gels or solutions.
- (b) GlasPac purification of DNA, 10 to 200bp, from agarose gels or solutions.
- (c) GlasPac purification of RNA from agarose gels or solutions.

### Method:

In order to prepare cloning quality template DNA or RNA, from agarose gels or solutions, a small amount of GlasPac is added in the presence of sodium iodide. Sodium iodide provides the necessary salt conditions for binding DNA or RNA to the glass, as well as having the ability to dissolve high or low melt

temperature agarose gels. Sodium chloride and ethanol are then added to wash away the residual salt, enzymes and agarose, from the glass-DNA or RNA complex, while maintaining the DNA or RNA-glass interaction. Elution, of the nucleic acid from the glass, is accomplished either with water or a low salt buffer.

GlasPac has a binding capacity of 1µg DNA per 1µl of glass suspension, and can be eluted in a volume as small as 1µl. Recoveries range from 70% to 90% when purifying DNA from agarose gels, and virtually 100% from solutions. By using the 2ml of GlasPac provided, isolations conducted at room temperature (RT), can accommodate up to 2000µg of DNA or RNA. Each GlasPac purification provides a highly efficient substrate for restriction endonuclease digestions, ligations, transformations, sequencing and amplifications.

### Kit Reagents:

- #4 Salt (180ml): Saturated Sodium Iodide Solution
- #5 Wash (120ml): Concentrated Wash Solution, (yielding 800ml of prepared wash)
- GlasPac™ (2.0ml): DNA or RNA Glass-Binding Compound, (conveniently packaged in four separate vials containing 0.5ml each).

### Special Note Regarding GlasPac™

GlasPac is a (1:1) suspension of insoluble glass matrix and water. To maintain binding capacity, GlasPac must be completely resuspended before use, either by vigorous vortexing (usually 30 to 90 seconds), or by pipetting up and down.

### References:

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2. Hamaguchi, L. & Geiduschek, E.P. (1962) J. Amer. Chem. Soc. 84,1329
3. Marko, M.A. et al (1982) Analytical Biochem. 121,382
4. Struhl, K. (1985) BioTechniques 3,452
5. Godson, G.N. and Vapnek (1973) Biochem. Biophys. Acta. 299,516