Protein Acetylation Kit

For blocking primary amines of proteins and peptides

SULFO NHS ACETATE PROTEIN MODIFICATION KIT

(Cat. # 786-1647)

INTRODUCTION

G-Biosciences Protein Acetylation Kit is designed for modifying proteins by blocking their primary amines. The NHS ester group of Sulfo NHS Acetate reacts with primary amines of protein in non-amine containing buffers at pH 7-9. After reaction, the amine is irreversibly capped with an acyl group. If reversible blocking is desired, Citraconic Anhydride (Cat. # 786-389) should be used.

Modification by Sulfo NHS Acetate is required to prevent polymerization during protein cross-linking reactions and when conjugating peptides to carrier proteins for immunogen production. Blocked amines on the peptide allows for directed conjugation of carboxylic on peptide to primary amines on the protein using EDC (Cat. # BC25-1).

Protein Acetylation Kit contains 100 mg Sulfo NHS Acetate, Reaction Buffer (Optimizer Buffer™ I [5X]) and Stop Buffer to carry out modification reaction.

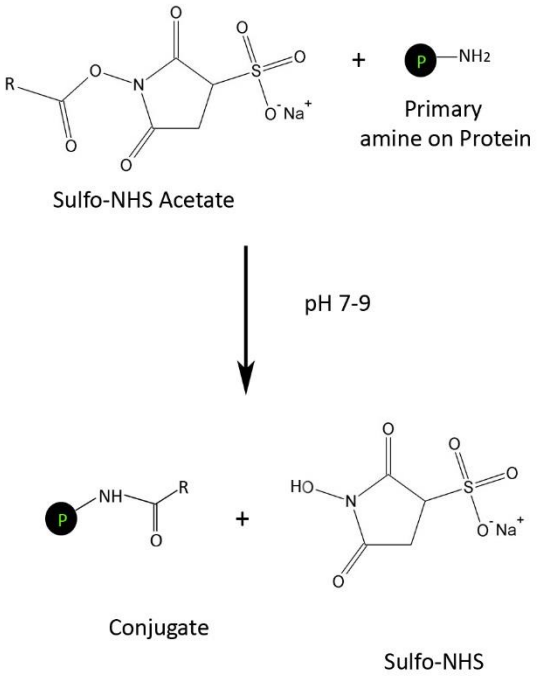


Fig1: Modification by Sulfo-NHS Acetate

ITEM(S) SUPPLIED

Description	Cat. # 786-1647
Sulfo NHS Acetate	100 mg
Optimizer Buffer™ I [5X]	2 x 25 ml
Stop Buffer	10 ml

STORAGE CONDITION

Protein Acetylation Kit is supplied at ambient temperature. Upon receipt store components according to product labels.

IMPORTANT INFORMATION

- Store Sulfo NHS Acetate at -20°C with dry silica gel provided. Sulfo NHS Acetate is moisture sensitive and so it should be brought to room temperature before opening the vial to prevent any hydrolysis.
- Reconstitute the required amount of Sulfo-NHS Acetate immediately before use. Discard the leftover and do not make any stock solution.
- Protein Acetylation Kit comes with 100 mg Sulfo NHS Acetate, use of which depends on the content of amine groups in the protein. The buffers supplied with the kit can be purchased separately if more is required (Cat. # BKC-04).

PREPARATION BEFORE USE

Dilute Optimizer Buffer™ I [5X] with deionized water in ratio 1:4 (e.g. 1 ml of Optimizer Buffer™ I [5X] and 4 ml of deionized water) to get 1X Optimizer Buffer™ I solution.

PROTOCOL

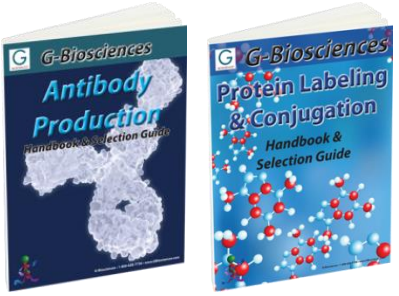
1. Dissolve the peptide or protein in 1X Optimizer Buffer™ I.
   NOTE: *In case protein is already in buffer make sure that buffer is non-amine and pH is with 7-9 range. If protein is in amine containing buffer dialyze against* 1X Optimizer Buffer™ I. *Use Tube-O-DIALYZER™ (Cat. # 786-610 -786-624).*
2. Prepare 10 mM Sulfo NHS Acetate by dissolving 5.2 mg in 2 ml of deionized water or add the required amount directly into the protein solution.
3. Reaction is set up by adding 25 molar excess of Sulfo-NHS Acetate compared to amine groups present in the sample. In case the number of amines in sample is not known, add equal amount of Sulfo-NHS Acetate to provide adequate molar excess (Example: For 1mg protein add 1mg Sulfo-NHS Acetate).
4. Mix the reaction and incubate the tube at room temperature for 1 hour.
5. Add 1/10th the volume of stop buffer to stop the reaction.
6. The acetylated protein is ready for downstream applications.
   NOTE: *Stop buffer contains amine. If required remove the stop buffer from acetylated protein by dialysis or desalting (SpinOUT™ columns, Cat. # 786-705)*

TROUBLESHOOTING

Issue	Suggested reason	Possible solution
Amines are not blocked	Sulfo NHS Acetate not handled properly, hydrolyzed	Get new vial and follow instructions strictly as mentioned in protocol
	Buffer used was not compatible with reaction	Use amine free buffer for reaction and buffer should be with pH7-9 range.

RELATED PRODUCTS

Download our Antibody Production and Protein Labeling & Conjugation Handbooks



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