Differentiating Research

Product Details

Quick PNGase F

Product Overview

Quick PNGase F, a crucial enzyme in molecular biology, swiftly removes N-linked glycan structures from glycoproteins. Its exceptional speed, typically completing deglycosylation in just 10-15 minutes, is ideal for high-throughput applications. This enzyme demonstrates remarkable specificity, targeting N-glycan structures exclusively without affecting other protein modifications. It functions by cleaving N-glycans at the N-X-S/T motif, vital for proteomic studies. Quick PNGase is widely employed in mass spectrometry-based proteomics to ensure precise peptide mass data. It is also instrumental in biomedical research, particularly in investigating glycoproteins associated with various diseases. Its compatibility with diverse buffer systems and ease of storage at low temperatures make it an indispensable tool in the study of protein glycosylation.

Catalog Details

R1303	20,000 Units
R1304	1 Lakh Units

Storage

- 20 ℃

Protocol

QUICK PNGase F Protocol - A

1. Start by mixing 50 to 100 µg of antibody with water to reach a 18µL volume.
2. Next, add 2 µL of Quick PNGase F Buffer (10X) to reach a total reaction volume of 20 µL.
3. Add 1 µL of Quick PNGase F enzyme.
4. Allow the mixture to incubate for 5 to 10 minutes at 50°C.
5. This process prepares the N-glycans for derivatization (e.g., reductive amination) for subsequent analysis.
6. Exchange the buffer by micro dialysis or micro filtration for MS Analysis.

QUICK PNGase F Protocol B : Fab N-glycans may require a preheating step for efficient deglycosylation.

1. Begin by takin 50 to 100 micrograms of antibody with water to achieve a 10µL volume.
2. Add 2 µL of Quick PNGase F Buffer (10 X) to reach a total reaction volume of 20µL.
3. Incubate the mixture at 80°C for 2 minutes, then allow it to cool down and centrifuge.
4. After cooling, add 1µL of Quick PNGase F enzyme.
5. Incubate the entire mixture for 5 to 10 minutes at 50°C.
6. Exchange the buffer by micro dialysis or micro filtration for MS Analysis.

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DATA

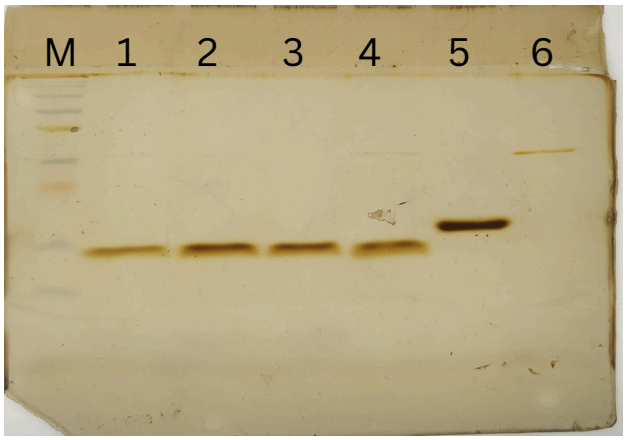

Fig 1

Details: Fig 1

RNase B is heavily glycosylatd with mannose which is used as control testing endoglycosidases that removes N-linked carbohydrates. 20µg of RNase B is treated with 1µL of DX/DT PNGase F, incubated at 50℃ for just 5 minutes.

Lane M: Marker
Lane 1: RNase B protein + 0.25µL DX/DT Quick PNGase F (20µL Loaded on SDS Gel)
Lane 2: RNase B protein + 0.5µL DX/DT Quick PNGase F
Lane 3:RNase B protein + 0.75µL DX/DT Quick PNGase F
Lane 4:RNase B protein + 1µL DX/DT Quick PNGase F
Lane 5:RNase B protein
Lane 6: DX/DT Quick PNGase F

Inference: 100% band shift was observed due to deglycosylation. PNGase F protien is extremely pure (Lane 6)

Quality Control Assays

1. **Purity:** SDS Page analysis with Coomassie Blue Staining resulted in ≥ 95% purity.
2. **Nuclease tests:** No contamination of endo or exonucleases were detected.
3. **Protease tests:** No protease activity is detected through SDS PAGE and HPLC analysis.

DX/DT Products

- High Fidelity DNA Polymerases
- cDNA Synthesis Kits
- One Step RT PCR Kits
- SYBR Green Mastermixes
- Multiplex qPCR Mastermixes
- Optimus DNA Ladders
- Leo Prime Mastermix
- X-Nuclease (Benzonase Eq.)

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