GB MMLV reverse Transcriptase **For Research use only**

Cat No: GB2430

Size : 5 ml (1,000,000 units)

Description:

GB M-MLV Reverse Transcriptase RNase H Minus is a modified version of the Moloney Murine Leukemia Virus Reverse Transcriptase, designed to remove the RNase H activity. This modification makes it particularly useful for synthesizing long cDNA from long RNA templates (greater than 5kb).

General Protocol

1. **Template RNA Preparation**: Isolate RNA from cells or tissues and ensure it is free of DNA contamination.
2. **Reaction Setup**:
   - RNA Template: Typically 1 µg of total RNA or 10-100 ng of mRNA.
   - Oligo(dT) Primer or Random Primers: Primers to initiate cDNA synthesis.
   - dNTPs: Deoxynucleotide triphosphates for DNA synthesis.
   - M-MLV Reverse Transcriptase RNase H Minus: The enzyme for cDNA synthesis.
   - Reaction Buffer: Provides the necessary ions and environment for enzyme activity.
3. **Reverse Transcription**:
   - Annealing: Incubate the RNA-primer mix at 65°C for 5 minutes, then cool on ice.
   - Extension: Add the M-MLV Reverse Transcriptase RNase H Minus and incubate at 37-42°C for 50-60 minutes.
   - Termination: Heat at 70°C for 15 minutes to inactivate the enzyme.

Advantages

- **High Yield**: Produces high yields of cDNA, making it ideal for downstream applications.
- **Robustness**: Effective with various types of RNA, including challenging templates.
- **Ease of Use**: Simplifies the process of reverse transcription with standardized protocols.

Limitations

- **RNA Quality**: Requires high-quality RNA to produce reliable results.
- **Enzyme Sensitivity**: Sensitive to inhibitors commonly found in RNA preparations, such as ethanol or salts.

GB M-MLV Reverse Transcriptase RNase H Minus is a valuable tool for molecular biology research, enabling the conversion of RNA into cDNA for various applications.

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