

BspQI, Animal free

Product Number: RE0610

Shipping and Storage

-20±5°C

Description

Restriction endonucleases, abbreviated as restriction enzymes, are a type of nucleic acid endonuclease that can recognize specific deoxyribonucleotide sequences and cleave the phosphodiester bond between two deoxyribonucleotides at specific positions in each strand. Restriction enzymes are an important component of the "restriction modification system", whose biological function is mainly to protect the host from infection by foreign DNA. They are widely used in various fields such as gene localization and cloning, gene structure research, DNA sequence analysis and determination, gene synthesis, etc. BspQI is derived from the BspQI gene of *Bacillus sphaericus* and is a commonly used IIS type restriction endonuclease.

This product is produced using recombinant protein production technology to obtain BspQI, using pharmaceutical grade raw materials and strictly controlling host protein residues, nucleic acid residues, etc. It complies with GMP standards for product production and quality management regulations, ensuring that all raw materials in the production process are traceable.

Application

Linearization of in vitro transcription templates; Molecular cloning; Genotyping; Southern hybridization; SNP; Restriction fragment length polymorphism (RFLP).

Quality control

Project	Specification
Appearance	Clear liquid
Visible foreign matter	Compliance
pH	6.5-7.5
Reactivity	10U/μL-12.5U/μL
Residual endonuclease	The degradation of substrates shall not exceed 10%
Residual exonuclease of nucleic acid	The degradation of substrates shall not exceed 10%
RNA enzyme residue	The degradation of substrates shall not exceed 10%
Bacterial endotoxin	< 10EU/mL
Microbial limit	The total number of aerobic bacteria should not exceed 1cfu/10mL, and the total number of mold and yeast should not exceed 1cfu/10mL

Features

- This product has strong specificity and can specifically cleave the DNA sequence it recognizes. The recognition sequence is as follows:
5'... GCTCTTC(N)₁↓... 3'
3'... CGAGAAG(N)₄↑... 5'
- BspQI is insensitive to Dam, Dcm, and mammalian CpG methylation.
- BspQI's synlyases include LguI, PciSI, SapI.

Definition of Activity

Under the conditions of 50°C and pH 7.0, complete digestion of 1μg of λ DNA within 1 hour is defined as 1 active unit.



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Preservation system

20mM Tris-HCl; 500mM KCl; 1mM DTT; 0.1mM EDTA; 0.1% Triton X-100; 50% Glycerol; pH 7.0 at 25°C.

Common reaction system (50μL)

Components	50μL
10× BspQI Reaction Buffer, GMP Grade	5μL
Substrate DNA	1μg
BspQI, GMP Grade (10U/μL)	1μL
RNase Free Water	Up to 50μL

Incubate at 50°C for 1-16 hours, and the reaction time can be selected according to the experimental schedule. Enzyme digestion is fast and specific. If the reaction needs to be terminated, incubate at 80°C for 20 minutes.

Produce according to the following specifications

1. ISO 9001:2015, certified facility.
2. GMP Appendix - Cell Therapy Products "by the National Medical Products Administration.
3. General Introduction to Human Gene Therapy - Chinese Pharmacopoeia 2020, National Pharmacopoeia Commission.
4. USP Chapter<1043>, Ancillary Materials for Cell, Gene, and Tissue Engineering Products are used as excipients in cell therapy, gene therapy, and tissue engineering products.
5. USP Chapter<92>, Growth Factors and Cytokines Used in Cell Therapy Manufacturing: Cytokines and Growth Factors in the Production Process of Cell Therapy Products.
6. Ph. Eur. General Chapter 5.2.12, Raw Materials of Biological Origin for the Production of Cell-based and Gene Therapy Medicinal Products Biogenic raw materials used for the production of cell or gene therapy drugs.

Note

1. BspQI may exhibit star activity under conditions of high glycerol concentration>5% or in systems with low salt ion concentration;
2. Try to minimize the exposure time of enzymes above -20°C.