BspQI, GMP Grade

Cat. No.: GMP-RE057 animal-free, ampicillin-free

01/ Product Description

Restriction endonucleases are a class of endonuclease that recognize specific deoxynucleotide sequences and cleave the phosphodiester bond between two deoxyribonucleotides at specific sites in each chain. BspQI derived from *Bacillussphaericus*, is a commonly used restriction endonuclease. BspQI recognizes the following sequence:

5'… GCTCTTC $(N)_1$↓…3'

3'… CGAGAAG $(N)_4$↑…5'

Our manufacturing processes are strictly controlled to ensure the end products free from host protein or nucleic acid contaminations and other impurities following the Pharmaceutical Manufacturing Guidelines. We guarantee the manufacturing and quality control comply with GMP regulation for tracking each and every step of the manufacturing process, including raw material sourcing.

02/ Quality Criterion

Element	Standard
Appearance	Clear and transparent solution
Visible Particles	Meet the specification
pH	6.5-7.5
Activity	10U/ml-12.5U/μl
Endonuclease Residues	The degradation of substrate was ≤10%
Exonuclease Residues	The degradation of substrate was ≤10%
RNase Residues	The degradation of substrate was ≤10%
Bacterial Endotoxins	<10EU/ml
Microbial Limit	Total aerobic microbial count≤1cfu/10ml, total yeasts and molds count≤1cfu/10ml

03/ Complying to Following Regulations

1. ISO 9001:2015, certified facility.
2. GMP Appendix – Cellular therapeutic product National Medical Products Administration.
3. The Pandect of Genetic Therapeutic Product for Human Chinese Pharmacopoeia Commission.
4. USP Chapter <1043>, Ancillary Materials for Cell, Gene, and Tissue-Engineered Products.
5. USP Chapter <92>, Growth Factors and Cytokines Used in Cell Therapy Manufacturing.
6. Ph. Eur. General Chapter 5.2.12, Raw Materials of Biological Origin for the Production of Cell-based and Gene Therapy Medicinal Products.

04/ Application

Linearization of transcription templates in vitro.

Molecular cloning.

Genotyping.

Southern Blot.

SNP.

Restricted fragment length polymorphism (RFLP).

05/ Product Feature

BspQI is insensitive to Dam, Dcm and mammalian CpG methylation.

The isozyme of BspQI includes LguI, PciSI and SapI.

06/ Unit Definition

At 50℃, pH 7.0, within 1h, the amount of enzyme required for totally digestion 1μg λDNA is defined as one unit of enzyme activity.

07/ Buffer for Storage

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

08/ Storage Conditions

At -20±5℃.

09/ Product Packaging

SKU	Size	Components	Volume
GMP-RE057-U100	1000 U	BspQI, GMP Grade (10U/μl)	100μl
GMP-RE057-M001	10 KU	BspQI, GMP Grade (10U/μl)	1ml
GMP-RE057-M010	100 KU	BspQI, GMP Grade (10U/μl)	10ml
GMP-RE057-M050	500 KU	BspQI, GMP Grade (10U/μl)	50ml

10/ Reaction System (50μl)

Components	Quantity
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. The reaction time can be selected according to the experimental arrangement. The enzyme digestion is fast and specific. If the reaction needs to be terminated, it can be incubated at 80°C for 20min.

11/ Precautions

BspQI may show asterisk activity at high glycerol concentration > 5% or low salt ion concentration.

Minimize enzyme exposure time above -20℃.

12/ Related Product

Cat. No.	Product Name	Cat. No.	Product Name
GMP-M062	Vaccinia Capping Enzyme, GMP Grade	GMP-E125	RNase Inhibitor, GMP Grade
GMP-M072	mRNA Cap 2´-O-Methyltransferase, GMP Grade	GMP-E121	T7 RNA Polymerase, GMP Grade
GMP-M012	*E. coli* Poly(A) Polymerase, GMP Grade	GMP-M036	Pyrophosphatase, Inorganic (yeast), GMP Grade
GMP-EB057	10×BspQI Reaction Buffer, GMP Grade	GMP-E127	DNase I, GMP Grade
GMP-E131	T7 RNA Transcription Enzyme Mix, GMP Grade	GMP-S023-026	NTPs, GMP Grade