

KRISHZYME™ DNase 1 (DNase1)

Catalog Number: KBENZ62

Description

The KRISHZYME™ DNase1, also known as deoxyribonuclease I and DNL1, is a member of the DNase family. DNase1 is a nuclease that cleaves DNA preferentially at phosphodiester linkages adjacent to a pyrimidine nucleotide, yielding 5'-phosphate-terminated polynucleotides with a free hydroxyl group on position 3', on average producing tetranucleotides. DNase I binds to the cytoskeletal protein actin. It binds actin monomers with very high (sub-nanomolar) affinity and actin polymers with lower affinity.

Krishzyme DNase 1 has applications in molecular Biology and biotechnology aiding removal of genomic DNA contamination, or is used during RNA isolation procedures (e.g., RT-qPCR, RNA-Seq prep) to degrade residual DNA and ensure pure RNA samples. DNase 1 is also used for plasmid DNA transfection workflows to reduce viscosity caused by DNA and improve transfection efficiency.

Source:

Human

Expression Host:

HEK293

Purity:

>95% as determined by SDS-PAGE quantitative densitometry by Coomassie Blue Staining.

Endotoxin:

< 0.05 EU/1000 units as determined by the LAL method.

N terminal:

His Tag

SDS-PAGE:

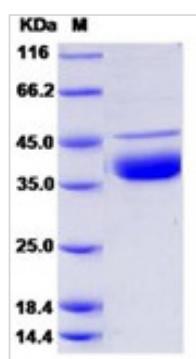


Fig. 1. Purity analysis by SDS-PAGE Detection

Molecular Mass:

The KRISHZYME™ DNase1 has a calculated molecular mass of approximately 37 kDa

Enzyme Activity:

The specific activity is >5000 unit/mg.

Unit Definition:

One unit is defined as the amount of DNase I that degrades DNA and causes an increase in absorbance at 260 nm of 0.001/minute at 25°C , pH 5.0.

Formulation:

KRISHZYME™ DNase1 is supplied as lyophilized vial from a sterile solution of PBS, pH 7.4.

Reconstitution:

Being enzymes, the concentration may differ from lot to lot produced by us. We always recommend referring the accompanying data sheet to view the exact concentration and the recommended dilution schemata.

Centrifuge the vial at 4°C before opening to recover the entire contents. Please contact us for any concerns or special requirements at +91-22-49198700 | Email: sales1@krishgen.com

Storage:

Store it under sterile conditions at -20°C to -80°C upon receiving for at least 12 months. It is recommended to aliquot the enzyme into smaller quantities for optimal storage. Avoid repeated freeze-thaw cycles.

Application:

- Removal of genomic DNA contamination:
- Used during RNA isolation procedures (e.g., RT-qPCR, RNA-Seq prep) to degrade residual DNA and ensure pure RNA samples.
- Footprinting assays (DNase I footprinting):
- Identifies DNA-protein binding sites by selectively digesting unbound DNA regions, leaving protected regions intact.
- DNase I activity increases during apoptosis, leading to the characteristic DNA laddering pattern due to internucleosomal cleavage.
- Used during plasmid DNA transfection workflows to reduce viscosity caused by DNA and improve transfection efficiency.

References:

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functiondnase 1 enzyme structurednase 1 enzyme activitydnase 1 enzyme purificationdnase 1 enzyme
assaydnase 1 enzyme mechanism

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