

DNase I Protein, Human (HEK293, His)

Cat. No.:	HY-P72974
Synonyms:	Deoxyribonuclease-1; DNase I; Dornase alfa; DNASE1; DNL1; DRNI
Species:	Human
Source:	HEK293
Accession:	P24855 (M1-K282)
Gene ID:	1773
Molecular Weight:	Approximately 37 kDa

PROPERTIES

AA Sequence	<pre> MRGMKLLGAL LALAALLQGA VSLKIAAFNI QTFGETKMSN ATLVSYIVQI LSRDYDIALVQ EVRDSHLTAV GKLLDNLNQD APDTHYHVVS EPLGRNSYKE RYLFVYRPDQ VSAVDSYYVD DGCEPCGNDT FNREPAIVRF FSRFTEVREF AIVPLHAAPG DAVAEIDALY DVYLDVQEKW GLEDVMLMGD FNAGCSYVRP SQWSSIRLWT SPTFQWLIPD SADTTATPTH CAYDRIVVAG MLLRGAVVPD SALPFNFQAA YGLSDQLAQA ISDHYPVEVM LK </pre>
Biological Activity	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 and the specific activity is >5000 unit/mg.
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 µm filtered solution of PBS, pH 7.4. Normally 5% - 8% trehalose, mannitol and 0.01% Tween 80 are added as protectants before lyophilization.
Endotoxin Level	<1 EU/µg, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH ₂ O.
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background	DNase I, a serum endonuclease, is secreted by a diverse array of exocrine and endocrine organs. It is expressed in non-
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hematopoietic tissues and exhibits a preference for cleaving protein-free DNA. Apart from its general role as an endonuclease, DNase I plays a crucial role in apoptosis-induced cell death. Additionally, it binds specifically to G-actin, hindering actin polymerization. In collaboration with DNASE1L3, DNase I is instrumental in the degradation of neutrophil extracellular traps (NETs), which primarily consist of DNA fibers and are released by neutrophils during inflammation. The degradation of intravascular NETs by DNase I and DNASE1L3 is essential to prevent the formation of clots that could obstruct blood vessels, thereby mitigating organ damage following inflammatory responses.

Caution: Product has not been fully validated for medical applications. For research use only.

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