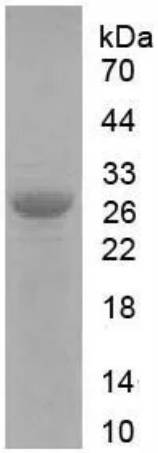
Active Deoxyribonuclease I (DNASE1)

Catalog#:PEH12613

概述（Summary）

别称（Alternative Names）	DNaseI; DNL1; DRNI; DNase-I; Dornase alfa
纯度（Purity）	Greater than 90% as determined by reducing SDS-PAGE.
内毒素（Endotoxin level）	Please contact with the lab for this information
蛋白构建（Construction）	【Gly19-Ala259】
Accession #	P24855
表达宿主（Host）	E.coli
种属（Species）	Homo sapiens (Human)
预测分子量（Predicted MW）	28.3 kDa
制剂（Form）	Lyophilized from a 0.2 μm filtered solution of PBS, pH7.4, containing 0.01% SKL, 1mM DTT, 5% Trehalose and Proclin300.
运输方式（Shipping）	The product is shipped with ice bag. Upon receipt, store it immediately at the temperature listed below.
稳定性&储存（Stability &Storage）	12 months at -20°C to -80°C in lyophilized state.6 months at -20°C to -80°C under sterile conditions after reconstitution.7-10 days at 2°C to 8°C under sterile conditions after reconstitution.Please minimize freeze-thaw cycles.
复溶（Reconstitution）	Reconstitute in 10mM PBS (pH7.4) to a concentration of 0.1-1.0 mg/mL. Do not vortex.
背景介绍（References）	Serum endocuclease secreted into body fluids by a wide variety of exocrine and endocrine organs. Expressed by non-hematopoietic tissues and preferentially cleaves protein-free DNA. Among other functions, seems to be involved in cell death by apoptosis. Binds specifically to G-actin and blocks actin polymerization. Together with DNASE1L3, plays a key role in degrading neutrophil extracellular traps (NETs). NETs are mainly composed of DNA fibers and are released by neutrophils to bind pathogens during inflammation. Degradation of intravascular NETs by DNASE1 and DNASE1L3 is required to prevent formation of clots that obstruct blood vessels and cause organ damage following inflammation.

电泳图（SDS-PAGE image）



Greater than 90% as determined by reducing SDS-PAGE.

活性图（Bioactivity image）

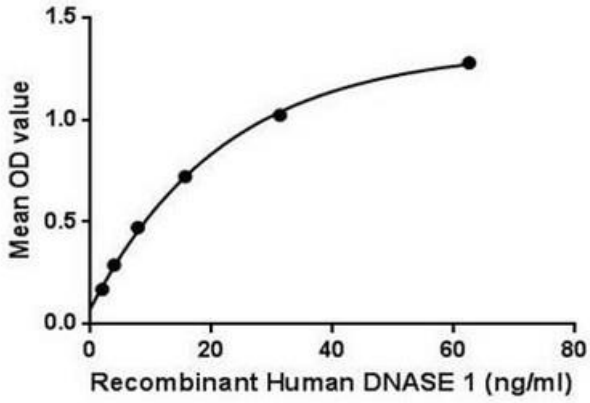


Figure 1. The binding activity of DNASE I with ACTb.

Deoxyribonuclease I (usually called DNase I) is a nonspecific endonuclease 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. It acts on single-stranded DNA, double-stranded DNA, and chromatin. DNase I can be activated by bivalent metals such as Mg2 and Ca2 . This endonuclease enzyme is common reagents used in biochemical methods requiring diestion of DNA and recovery of RNA, or where DNA is to be removed without affecting structural proteins or enzymes. For example, DNase I is frequently used to remove template DNA following in vitro transcription, and to remove contaminating DNA in total RNA preparations (especially those from transfected cells that may contain plasmid DNA), used for ribonuclease protection assays, cDNA library contraction, and RT-PCR. Besides, Actin Beta (ACTb) has been identified as an interactor of DNase I, thus a binding ELISA assay was conducted to detect the interaction of recombinant human DNase I and recombinant human ACTb. Briefly, DNase I were diluted serially in PBS, with 0.01% BSA (pH 7.4). Duplicate samples of 100uL were then transferred to ACTb-coated microtiter wells and incubated for 2h at 37℃. Wells were washed with PBST and incubated for 1h with anti-DNase I pAb, then aspirated and washed 3 times. After incubation with HRP labelled secondary antibody, wells were aspirated and washed 3 times. With the addition of substrate solution, wells were incubated 15-25 minutes at 37℃. Finally, add 50μL stop solution to the wells and read at 450nm immediately. The binding activity of of DNase I and ACTb was shown in Figure 1, and this effect was in a dose dependent manner.

注意事项（Note）

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