

Product Data Sheet

□ Cat # RP-405

Recombinant Human Deoxyribonuclease I

Size: □ 500 ug

Deoxyribonuclease I Human Recombinant (rhDNase), an enzyme which selectively cleaves DNA. Recombinant Human Dnase is an endonuclease enzyme which splits phosphodiester linkages within polynucleotides, acting primarily on single stranded DNA (ssDNA), double stranded DNA (ddDNA) and chromatin. Dnase is activated by bivalent metals such as  $Mg^{+2}$  and  $Ca^{+2}$ . Dnase enzymes are common reagents used in biochemical methods requiring digestion of DNA and recovery of RNA, or where DNA is to be removed without affecting structural proteins or enzymes. Dnase enzymes are also used in tissue culture to digest DNA from damaged cells, resulting in reduced viscosity, and for removal of membrane-bound DNA fragments.

**Source:** *Chinese Hamster Ovary Cells* Deoxyribonuclease I Human Recombinant produced in CHO is a glycosylated, polypeptide chain containing 260 amino acids and having a total molecular mass of 37,000 Dalton with a molecular formula of  $C_{1321}H_{1995}O_{396}S_9$ . DNase is purified by proprietary chromatographic techniques. Each mg contains 150  $\mu$ g calcium chloride dehydrate and 8.77 mg NaCl.

**Applications and Suggested Dilutions:** Users must optimize the appropriate concentration and conditions for each assay.

**Storage and Stability:** 2 years when stored at 4°C, three weeks at 15°C, pH-6.3. If supplied in powder then reconstitute it in 100  $\mu$ l water for 1 mg/ml stock and store in liquid at 4°C for ~1 week or aliquots in suitable size and store at -20°C for long term storage.

**Unit Definition:** Dnase is generally assayed according to the photometric method developed by Kunitz (see Kunitz, M., Journal of General Physiology, vol 33, p.349 and 363, 1950). One Dnase unit results in an increase in absorbance at 260nm of 0.001/minute at 25°C when acting upon highly polymerized solution of DNA at pH-5. Also 0.005 Kunitz unit digests 1  $\mu$ g of lambda phage DNA in 10 minutes at 37°C in 50mM Tris, 1mM  $Mg^{++}$ , pH 7.8 in a 50  $\mu$ l reaction

**Usage:** This item is for LABORATORY RESEARCH USE ONLY. The product may not be used as drugs, agricultural or pesticidal products, food additives or household chemicals.

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