Deoxyribonucleic Acid and Related Products

Worthington offers DNA purified from these sources:

Calf thymus: (Code: DNA) Prepared and purified by a method developed at Worthington to have lower protein and RNA contamination than most other commercial preparations. This highly polymerized DNA is an excellent substrate for deoxyribonuclease. A sodium salt, it must be converted by adding magnesium ions to be susceptible to DNase.

Calf thymus DNA, covalently bound to cellulose is also available: DNA Cellulose, Double-Stranded (Code: DNACELDS) and DNA Cellulose, Single-Stranded (Code: DNACELSS)

Salmon Testes: (Code: SDNA) Prepared by a modification of the method of Emanuel and Chaikoff, *JBC*, *203*, 164, 1953. A minimum of 75% native nucleic acid.

Salmon Testes DNA, Denatured & Fragmented (Code: SDNAD) is also available. Prepared by mechanical shearing and heat denaturation.

Escherichia coli. (Code: DNAEC) Isolated as described by Marmur, *J. Mol. Biol., 3*, 208, 1961.

Lambda phage DNA (Code: DNAL) is prepared from CsCI purified phage and is purified to an $A_{260}/A_{280} \ge 1.8$. Homogeneous in agarose gel electrophoresis. A solution in 10mM Tris-HCI pH 8.0 with 1mM EDTA.

DNA fragments prepared by restriction endonuclease digestion of purified lambda DNA are available (Codes: DNALBSTE; DNALECOR; DNALHIND). Supplied as solutions in 10 mM Tris-HCl pH 8.0 with 1mM EDTA.

Technical Note: One A₂₆₀ unit = 50µg DNA.

Storage: DNAL: Storage buffer 10mM Tris-HCl, pH 8.0 containing 1mM EDTA. Store at -20° C. Once thawed keep at $2-8^{\circ}$ C.

Deoxyribonucleic Acid

Code: DNA

Highly polymerized; hyperchromicity \geq 27%. A substrate for deoxyribonuclease assays. Prepared by a method developed at Worthington to remove contaminating RNA and protein. Supplied dried. Store at 2–8° C.

Source: Calf Thymus

Minimum Activity: Hyperchromicity ≥27%

Cat#	Pack Size
LS002105	100 mg
LS002106	1 gm
LS002107	5 gm
LS002108	Bulk

DNA Cellulose, Double-Stranded Code: DNACELDS

Prepared by a method developed at Worthington in which native, double-stranded calf thymus DNA is covalently bound to cellulose. Suitable for the purification of many DNA binding proteins such as polymerases, transcription factors, and terminators, etc. Supplied as a dry powder. Store at $2-8^{\circ}$ C.

Source: Calf Thymus

Minimum Activity: ≥3 mg DNA per gm dry weight

Cat#	Pack Size
LM01120	1 gm
LM01122	5 gm
LM01124	Bulk

DNA Cellulose, Single-Stranded Code: DNACELSS

Prepared by a method developed at Worthington in which denatured, singlestranded calf thymus DNA is covalently bound to cellulose. Suitable for the purification of many proteins that are associated with nucleic acids such as DNA/RNA polymerases and endo- and exo-nucleases and reverse transcriptases. Supplied as a dry powder. Store at $2-8^{\circ}$ C.

Source: Calf Thymus

Minimum Activity: ≥3 mg DNA per gm dry weight

Cat#	Pack Size
LM01130	1 gm
LM01132	5 gm
LM01134	Bulk

Deoxyribonucleic Acid

Code: DNAEC

Isolated as described by Marmur, *J. Mol. Biol., 3*, 208 (1961). Supplied dried. Store at $2-8^{\circ}$ C.

Source: E. coli

Minimum Activity: Hyperchromicity ≥27%

Cat#	Pack Size
LS004449	10 mg
LS004451	Bulk

Deoxyribonucleic Acid, Lambda

Code: DNAL

Purified to an A260/A280 \geq 1.8 from purified phage. Homogeneous by agarose gel electrophoresis. Generates the characteristic five and eight bands after digestion with EcoR I and Hind III respectively. A solution in 10mM Tris-HCl, pH 8.0, with 1mM EDTA. Store at -20° C.

Source: *E. coli W8850 (lambda Cl857–S7)* Minimum Activity: A260/A280 ≥1.8

Cat#	Pack Size
LM01203	500 µg
LM01206	2 mg
LM01200	Bulk

Deoxyribonucleic Acid, Lambda, BstE II Fragments Code: DNALBSTE

DNA fragments prepared by the digestion of lambda DNA with the restriction endonuclease BstE II. On agarose gel electrophoresis the mixture separates into 14 individual bands having the following number of base pairs: 8454, 7242, 6369, 5686, 4822, 4324, 3675, 2323, 1929, 1371, 1264, 702, 224 and 117. A solution in 10mM Tris-HCl, pH 8.0, with 1mM EDTA. Store at -20° C.

Source: Lambda DNA

Cat#	Pack Size
LM01430	100 µg
LM01432	5x100 µg
LM01434	Bulk

Deoxyribonucleic Acid, Lambda, EcoR I Fragments Code: DNALECOR

DNA fragments prepared by the digestion of purified lambda DNA with the restriction endonuclease EcoR I. On agarose gel electrophoresis the mixture separates into five individual bands having the following number of base pairs: 21226, 7421, 5804, 4878, and 3530. A solution in 10mM Tris-HCI, pH 8.0, with 1mM EDTA. Store at -20° C.

Source: Lambda DNA

Cat#	Pack Size
LM01293	100 µg
LM01296	5x100 µg
LM01290	Bulk

Deoxyribonucleic Acid, Lambda, Hind III Fragments Code: DNALHIND

DNA fragments prepared by the digestion of purified lambda DNA with the restriction endonuclease Hind III. On agarose gel electrophoresis the mixture separates into eight individual bands having the following number of base pairs: 23130, 9416, 6557, 4361, 2322, 2027, 564, and 125. (Note: A higher sample load concentration may be required to clearly see the 564 and 125 base pair bands.) A solution in 10mM Tris-HCl, pH 8.0, with 1mM EDTA. Store at -20° C. **Source:** *Lambda DNA*

Cat#	Pack Size
LM01303	100 µg
LM01306	5x100 µg
LM01300	Bulk

Deoxyribonucleic Acid

Code: SDNA

Prepared by modification to the method of Emanuel, C.F. and Chaikoff, I.L.: *JBC*, 203, 164 (1953). \geq 75% native nucleic acid. Supplied dried. Store at 2-8° C. Source: *Salmon Testes*

Minimum Activity: A260/A280 ≥1.8

Cat#	Pack Size
LS003554	1 gm
LS003558	5 gm
LS003557	Bulk

Deoxyribonucleic Acid, Denatured, Fragmented Code: SDNAD

Prepared from purified salmon testes DNA (Code: SDNA) by mechanical shearing and heat denaturation to an average fragment size of 200–1000 base pairs. To reverse any renaturation occurring during storage this material should be briefly boiled and rapidly chilled before use. Recommended concentration for use is 100μ g/ml. A solution at 5 mg/ml in 0.05M NaCl. Store at -20° C. **Source:** *Salmon Testes*

Cat#	Pack Size
LM01440	10 ml
LM01442	50 ml
LM01444	Bulk