

Conversions for Nucleic Acids and Proteins

1 µg	pmol	Molecules
20mer oligonucleotide	152	9.1×10^{13}
1000 bp DNA	1.52	9.1×10^{11}
pUC19 DNA (2,686 bp)	0.57	3.4×10^{11}
pBR322 DNA (4,363 bp)	0.35	2.1×10^{11}
Lambda DNA (48,502 bp)	0.03	1.8×10^{10}
Average mRNA (1,930 nt)	1.67	1.0×10^{12}
1 pmol		µg
20mer oligonucleotide		0.0066
1000 bp DNA		0.66
pUC19 DNA (2,686 bp)		1.77
pBR 322 DNA (4,363 bp)		2.88
Lambda DNA (48,502 bp)		32.01
Average mRNA (1,930 nt)		0.6

*The Avogadro constant for molar conversion is 6.022×10^{23}

100 pmol	µg
10,000 Da protein	1
30,000 Da protein	3
100,000 Da protein	10

Protein	DNA
10,000 Da	270 bp
30,000 Da	810 bp
100,000 Da	2.7 kb

*1 kb of DNA encodes 333 amino acids at 3.7×10^4 Da