

## Abbreviations

Abbreviations should be defined at first mention and used consistently thereafter. Certain standard terms do not require abbreviation. These are listed in Table 1.

For units of measurement SI units should always be used. The symbols and abbreviations for such units can be found in Table 2.

Table 1. Abbreviations and Conventions. These abbreviations may be used without definition.

### (i) General

ADP, CDP, UDP, XDP, dTDP	5-pyrophosphates of GDP, IDP, adenosine, cytidine, guanosine, inosine, uridine, xanthosine, thymidine
AMP etc.	adenosine 5'-phosphate, etc.
ATP etc.	adenosine 5'-triphosphate, etc.
Approx.	approximately (not c. or ca.)
Aq.	aqueous
BSA	bovine serum albumin
CM-cellulose	carboxymethylcellulose
CoA, CoASH	coenzymeA,
conc.	concentrated
DEAE-cellulose	diethylaminoethylcellulose
DNA	deoxyribonucleic acid
cDNA	complementary deoxyribonucleic acid
DNAase	deoxyribonuclease
DMSO	dimethylsulphoxide
EDTA	ethylenediaminetetraacetate
FAD	flavin-adenine dinucleotide
FMN	flavin mononucleotide
GSH, GSSG	glutathione, reduced and oxidized forms
IgC, IgM, etc.	immunoglobulin G, M etc.
i.r.	infrared
LPS	lipopolysaccharide
LD <sub>50</sub>	median lethal dose
MIC	minimal inhibitory concentration
NAD <sup>+</sup>	nicotinamide-adenine dinucleotide, oxidized (NADH for reduced form)
NADP <sup>+</sup>	nicotinamide-adenine dinucleotide phosphate, oxidized (NADPH for reduced form)
NTG	N-methyl-N'-nitro-N-nitrosoguanidine
P <sub>i</sub> , PP <sub>i</sub>	orthophosphate, pyrophosphate
ppGpp	guanosine 3'-diphosphate 5'-diphosphate
PEG	polyethylene glycol
PMSF	phenylmethanesulphonyl fluoride
RNA, mRNA	ribonucleic acid, messenger ribonucleic acid.
rRNA, tRNA	ribosomal ribonucleic acid, and transfer ribonucleic acid RNAase ribonuclease
SDS	sodium dodecyl sulphate
u.v.	ultraviolet

### (ii) Scintillants

BBOT	2,5-di[5'-tert-butylbenzoxazolyl-(2'')]thiophen
Butyl-PBD	2-(4'-tert-butylphenyl)-3-(4''-biphenylyl)-1,3,4-oxadiazole
Dimethyl-POPOP	1,4-di-2-(4-methyl-5-phenyloxazolyl)benzene
POPOP	1,4-di-2-(5-phenyloxazolyl)benzene
PPO	2,5-diphenyloxazole

### (iii) Buffers

Aces	N-(2-acetamido)-2-aminoethanesulphonic acid
Ada	N-(2-acetamido)iminodiacetic acid
Bes	N,N-bis(2-hydroxyethyl)-2-aminoethanesulphonic acid

Bicine	<i>N,N</i> -bis(2-hydroxyethyl)glycine
Caps	3-cyclohexylamino-propanesulphonic acid
Chaps	3-[(3-cholamidopropyl)dimethylammonio]-propanesulphonic acid
Ches	2-(cyclohexylamino)ethanesulphonic acid
Hepes	<i>N</i> -2-hydroxyethylpiperazine- <i>N'</i> -2-ethanesulphonic acid
Hepps	<i>N</i> -2-hydroxyethylpiperazine- <i>N'</i> -3-propanesulphonic acid
Mes	2-( <i>N</i> -morpholino)ethanesulphonic acid
Mops	3-( <i>N</i> -morpholino)propanesulphonic add
PBS	phosphate-buffered saline ( <i>but composition must be specified</i> )
Pipes	piperazine- <i>N</i> , <i>N</i> -bis-2-ethanesulphonic add
Tes	<i>N</i> -tris(hydroxymethyl)methyl-2-aminoethanesulphonic acid
Tncine	<i>N</i> -tris-(hydroxymethyl)methyl-glycine
Tris	tris(hydroxymethyl)-methylamine

#### (iv) Techniques

ELISA	enzyme-linked immunosorbent assay
ESR (or EPR)	electron spin (paramagnetic) resonance
FPLC	fast protein liquid chromatography
GC (or GLC)	gas chromatography (or gas-liquid chromatography)
GC-MS	gas chromatography comb. with mass spectrometry
HFLC	high-pressure (performance) liquid chromatography
HFTLC	high-performance thin-layer chromatography
MIC	minimum inhibitory concentration
MS	mass spectrometry
NMR	nuclear magnetic resonance
PAGE	polyacrylamide gel electrophoresis
PCR	polymerase chain reaction
Py-MS	pyrolysis mass spectrometry
Py-GC	pyrolysis gas chromatography
RIA	radioimmunoassay
TLC	thin-layer chromatography

#### (v) Units

bp	base pairs
c.f.u.	colony-forming units
c.p.m.	counts per minute
Da, kDa, MDa	daltons, kilodaltons, megadaltons
d.p.m.	disintegrations per minute (or d.p.s.) (second)
kb (or kbp)	kilobasepairs
p.f.u.	plaque-forming units
rev/min (rev.min <sup>-1</sup> )	revolutions per minute(not rpm)

Table 2. Selected symbols for quantities and units

**Space, time and related quantities**

l	length	m, mm, $\mu\text{m}$ (not $\mu$ ), nm (not $\text{\AA}$ ), etc.
V	volume	l, (or $\text{dm}^3$ ) (not L), ml (or $\text{cm}^3$ ), $\mu\text{l}$ (or $\text{mm}^3$ ) etc
$\lambda$	wavelength	nm (not $\text{m}\mu$ or $\text{\AA}$ )
t	time	h (not hr), min (not mn), s (not sec). ms, $\mu\text{s}$ , etc.
$\nu, f$	frequency	Hz

**Mechanical and related quantities**

m	mass	kg, g, mg, $\mu\text{g}$ . etc.
F	force	N ( $\text{kg m s}^{-2}$ )
E	energy	J (not cal)
$p, P$	pressure	Pa ( $\text{N m}^{-2}$ ) 1 bar= $10^5$ Pa; 1 atm =101325 Pa;
S	sedimentation coefficient	$S=10^{-13}$ s $\text{rad}^{-2}$
g	centrifugal field	(9.81m.s)

**Molecular and related quantities**

m	molecular mass	Da(dalton), kDa, etc.
n	amount of substance	mol, mmol, $\mu\text{mol}$ , etc.
M, $M_r$	molar mass	$\text{g mol}^{-1}$ or $\text{kg mol}^{-1}$
$m_m, M_r$	relative molecular mass	-

**Thermodynamic and related quantities**

T	thermodynamic temperature	K (not $^\circ\text{K}$ )
$t, \theta$	Celsius temperature	$^\circ\text{C}$ (not C)
$q, Q$	heat	J (not cal)
I	ionic strength	M ( $\text{mol l}^{-1}$ ), mM, etc.

**Chemical reactions**

K	equilibrium constant	
$K_m$	Michaelis constant	M, mM etc.
$K_i$	inhibition constant	M, mM.etc.
$K_d$	dissociation constant	M, mM,etc.
k	rate constant	$\text{s}^{-1}$ , or $\text{M}^{-1} \text{s}^{-1}$
$\nu$	rate of reaction	M (or mM, etc.) $\text{s}^{-1}$
–	enzyme activity	kat
V	rate of enzyme catalysed reaction at infinite concentration of substrate	M (or mM) $\text{s}^{-1}$

**Electricity, magnetism and electromagnetic radiation**

I	electric current	A
R	resistance	$\Omega$
I	luminous intensity	cd
T	transmittance ( $I/I_0$ )	–
A	absorbance ( $-\log T$ )	–
D	attenuance	–
E	molar absorption coefficient	$\text{M}^{-1}\text{cm}^{-1}$
–	radioactivity	Bq(= $1 \text{ dis s}^{-1}$ ) or Ci(37 CBq)



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