STEROID NOMENCLATURE

THE FOLLOWING steroids are so well known as not to require the use of systematic names –

1. aetiocholanolone
2. aldosterone
3. androsterone
4. cholesterol and the common sterols
5. corticosterone
6. cortisol
7. cortisone
8. dehydroepiandrosterone (DHA)
9. deoxycorticosterone (DOC)
10. oestrone
11. oestradiol-17β
12. oestradiol-17α
13. oestriol
14. progesterone
15. testosterone

These names may be modified by addition or removal of substituent groups, thus –

11β-hydroxytestosterone, 16-oxo DHA, 11-deoxycortisol, may be used as trivial names without confusion. Similarly the (a) dihydro- and (b) tetrahydro-derivatives of 2, 5, 6, 7 and 9, referring to compounds with (a) H added at 4 and 5β and (b) in addition at 3 to give 3α-hydroxysteroids, need not be defined by systematic names. Thus –

tetrahydroaldosterone or dihydrocortisone

are acceptable trivial names. Also 5α-dihydrotestosterone is an acceptable trivial name. Reduction of a 20 carbonyl gives compounds such as 20α, or 20β-dihydroprogesterone. The term 20α-hydroxyprogesterone is wrong and thus unacceptable as a trivial name. The prefix 'epi' may also be used with trivial names to denote inversion at one centre, thus –

16-epioestriol, epiandrosterone and 11-epicortisol

are acceptable trivial names. For steroids with additional double bonds the prefix 'dehydro' may be used, thus –

11-dehydro-oestradiol-17α

is an acceptable trivial name. The prefix 'allo' and the marking of double bonds with a Δ are not allowed. The journal will not accept single-letter abbreviations for steroids.

The following trivial names referring to the steroids defined here are acceptable

16. androstenedione — 4-androstene-3,17-dione
17. cortol-20-α or 20β — 5β-pregnane-3α, 11β, 17α, 20α or 20β, 21-pentol

18. cortolone-20α or 20β	3α, 17α, 20α or 20β, 21-tetrahydroxy-5β-pregnan-11-one
19. ecdysone	2β, 3β, 14α, 22β, 25-pentahydroxy-7-cholesten-6-one
20. pregnenolone	3β-hydroxy-5-pregnen-20-one
21. urinary pregnanediol	5β-pregnane-3α,20α-diol
22. urinary pregnanetriol	5β-pregnane-3α,17α,20α-triol

Thus, for example, pregnenolone may be used without reference to its systematic name. Any other pregnenolone would of course, require definition by systematic name. These trivial names may be modified as in 11β-hydroxyandrostenedione or 21-hydroxypregnenolone.

All other steroids, including those of the bile acid series must be properly defined by systematic names at first mention in accordance with the "*Revised Tentative Rules for Nomenclature of Steroids*" (IUPAC Commission on the Nomenclature of Organic Chemistry and IUPAC–IUB Commission on Biochemical Nomenclature) *Biochim. biophys. Acta* **164** (1968) 453–486 or *J. steroid Biochem.* **1** (1970) 143–175.

OTHER ABBREVIATIONS AND SYMBOLS

The **Journal of Steroid Biochemistry** will in general use the recommended SI symbols for units (Système International d'Unités; see *Symbols, Signs and Abbreviations Recommended for British Scientific Publications* (1969), London, The Royal Society). The symbol for the plural of a unit is the same as that for the singular: thus "centimeters" is "cm", not "cms". The principles given in the Tentative Rules of the IUPAC–IUB Commission on Biochemical Nomenclature (see *Biochem. J.* **101** (1966) 1) will be followed for abbreviations. Abbreviations of names of compounds except those listed below must be defined together in a footnote.

Accepted abbreviations of names of compounds which may be used without definition:

ACTH	adrenocorticotrophin (or tropin)
ADP, CDP, GDP IDP, UPD, XDP	The 5′-pyrophosphates of adenosine, cytidine, guanosine, inosine, uridine, xanthosine
AMP etc.	Adenosine 5′-monophosphate, etc.
ATP etc.	Adenosine 5′-triphosphate, etc.
CoA and acyl-CoA	Coenzyme A and its acyl derivatives
DEAE-cellulose	Diethylaminoethyl cellulose
DNA	Deoxyribonucleic acid
EDTA	Ethylenediaminetetra-acetate
FAD	Flavin-adenine dinucleotide
FSH	Follicle-stimulating hormone
GH	Growth hormone
HCG	Chorionic gonadotrophin (or tropin), human
LH	Luteinizing hormone
LtH	Luteotrophic (or tropic) hormone
NAD^+, NADH	Nicotinamide-adenine dinucleotide (oxidized and reduced forms)

$NADP^+$, NADPH	Nicotinamide-adenine dinucleotide phosphate (oxidized and reduced forms)
P_i	Inorganic orthophosphate
PTH	Parathyroid hormone
RNA	Ribonucleic acid
nRNA, mRNA rRNA, tRNA	Nuclear, messenger, ribosomal and transfer ribonucleic acid species
Tris	2-Amino-2-hydroxymethylpropane-1,3-diol

Other accepted abbreviations which need not be defined:

acceleration due to gravity	g
approximately	approx. (not c. or ca.)
aqueous	aq.
centimetre	cm
compare	cf.
counts/minute	c.p.m.
crystalline	cryst.
curie ($3{\cdot}7 \times 10^{10}$ d.p.s.)	Ci
diffusion coefficient	D
diffusion coefficient, corrected to 20° in water, at zero concentration	$D^0_{20,w}$
dilute	dil.
disintegrations/minute	d.p.m.
disintegrations/second	d.p.s.
equilibrium constant	K
gas-liquid chromatography	g.l.c.
gram(me)	g
gram(me)-molecule	mol
hour	h
infrared	I.R.
kilogram(me)	kg
litre	l
logarithm (base 10)	log
logarithm (base e)	ln
maximum	max.
median effective dose	ED_{50}
median lethal dose	LD_{50}
melting point	m.p.
Michaelis constant	K_m
microgram(me)	μg
micromolar (concentration)	μM
micromole	μmol (not μM)
millilitre	ml
millimicron (10^{-9} m)	nm (not mμ)
millimolar (concentration)	mM *or* mmol/l
millimole (amount)	mmol (not mM)
minimum	min.
minute (60s)	min

molar (conc.)	M *or* mol/l
mole	mol
nanogram(me) (10^{-9} g)	ng
nuclear magnetic resonance	n.m.r.
per	/
per cent	%
picogram(me) (10^{-12} g)	pg
precipitate	ppt.
preparation	prep.
probability that an event is due to chance	P
recrystallized	recryst.
relative band or spot speed in chromatography	R_F; plural R_F values
revolutions/minute	rev./min (not r.p.m.)
second (time)	s
sedimentation coefficient	s
sedimentation coefficient, corrected to 20° in water, at zero concentration	$s^0_{20,w}$
soluble	sol.
solution	soln.
solvent systems	*e.g.* benzene–hexane–water (4 : 2 : 1, by vol.) benzene–water (2 : 1, v/v)
specific activity	S.A.
standard deviation	S.D.
Svedberg unit of sedimentation coefficient (10^{-13} s)	S
thin-layer chromatography	t.l.c.
time (symbol)	t
ultraviolet	U.V.
uncorrected	uncorr.
wavelength	λ
wave number (unit)	cm^{-1}
weight	wt.
weight in volume	w/v

Symbols for amino acids

The symbols (see *Biochem. J.* **102** (1967) 23) are to be used only when representing polymers, and need not be defined.

Symbols for nucleotides

These symbols (see *Biochem. J.* **101** (1966) 1) need not be defined.

Symbols for sugars

The symbols (see *Biochem. J.* **101** (1966) 1) are to be used only when representing polymers, and need not be defined.

Enzymes

The recommendations of "Enzyme Nomenclature" (Marcel Florkin and Elmer H. Stotz, eds., *Comprehensive Biology*, vol. 13. Elsevier Publishing Co., 1965) are to be followed as far as possible, and the EC numbers should be quoted as suggested on p. 42 of that publication.

Isotopically labelled compounds

Symbols for the isotope introduced are placed in square brackets in front of the name, e.g., [4-^{14}C] testosterone, the figure (4) indicating the position of the isotope in the compound.