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STEROID NOMENCLATURE

I. Systematic names

These must conform to the IUPAC-IUB 1967 Revised Tentative Rules for Steroid Nomenclature [*J. steroid Biochem.* **1** (1970) 143–175].

II. Trivial names

The following are examples of trivial names which may be used without reference to their systematic names:

Aetiocholanolone*	3α-Hydroxy-5β-androstan-17-one
Aldosterone	18,11-Hemiacetal of 11β,21-dihydroxy-3,20-dioxo-4-pregnen-18-al
Androsterone	3α-Hydroxy-5α-androstan-17-one
Cholesterol	5-Cholesten-3β-ol
Cholic acid	3α,7α,12α-Trihydroxy-5β-cholan-24-oic acid
Corticosterone	11β,21-Dihydroxy-4-pregnene-3,20-dione
Cortisol	11β,17,21-Trihydroxy-4-pregnene-3,20-dione
Cortisone	17,21-Dihydroxy-4-pregnene-3,11,20-trione
Dehydroepiandrosterone (DHA)	3β-Hydroxy-5-androsten-17-one
Deoxycorticosterone (DOC)	21-Hydroxy-4-pregnene-3,20-dione
Ergosterol	5,7,22-Ergostatrien-3β-ol
Oestradiol-17β*	1,3,5(10)-Oestratriene-3,17β-diol*
Oestriol*	1,3,5(10)-Oestratriene-3,16α-17β-triol*
Oestrone*	3-Hydroxy-1,3,5(10)-oestratrien-17-one*
Progesterone	4-Pregnene-3,20-dione
Testosterone	17β-Hydroxy-4-androsten-3-one

*The diphthongs æ and œ may be replaced by the letter e.

Trivial names may be prefixed to denote their derivatives or stereoisomers. In additon to prefixes used in systematic nomenclature (hydroxy, oxo, etc.) the following are frequently used: "epi" (inversion of a substituent), "dehydro" (removal of two hydrogen atoms from two adjacent carbon atoms or from a carbinol grouping) and "deoxy" (replacement of a hydroxy group by a hydrogen atom). "Dihydro", "tetrahydro", etc. may be used to indicate addition of hydrogen in double bonds but not to carbonyl groups. Names so derived should indicate the site and when necessary the steric outcome of the structural change defined by the prefix. Examples of correctly derived names are: 11-oxoaetiocholanolone, 6β-hydroxycortisone, epitestosterone, 11-epicortisol (not epicortisol), 7-dehydrocholesterol, 11-dehydrocorticosterone, 11-deoxycortisol and 22-dihydroergosterol.

With a few generally accepted exceptions such as deoxycorticosterone (11-deoxycorticosterone), deoxycholic acid (7-deoxycholic acid) and dehydroepiandrosterone (5-dehydroepiandrosterone) trivial names should be unambiguous.

The prefix "allo" (change from 5β to 5α configuration) and the symbol Δ^x (unsaturation at position x) may not be used.

The following are examples of trivial names not generally accepted but frequently used in specialized publications:

Androstenedione	4-Androstene-3,17-dione
20α-Cortol	5β-Pregnane-3α,11β,17,20α,21-pentol
20β-Cortol	5β-Pregnane-3α,11β,17,20β,21-pentol
20α-Cortolone	3α-17,20α,21-Tetrahydroxy-5β-pregnan-11-one
20β-Cortolone	3α-17,20β,21-Tetrahydroxy-5β-pregnan-11-one
Dihydrotestosterone	17β-Hydroxy-5α-androstan-3-one
Pregnanediol	5β-Pregnane-3α,20α-diol
Pregnanetriol	5β-Pregnane-3α,17,20α-triol
Pregnenolone	3β-Hydroxy-5-pregnen-20-one
Tetrahydroaldosterone*	18,11-Hemiacetal of 3α,11β,21-trihydroxy-20-oxo-5β-pregnan-18-al
Tetrahydrocortisol*	3α,11β,17,21-Tetrahydroxy-5β-pregnan-20-one
Tetrahydrocortisone*	3α,17,21-Trihydroxy-5β-pregnane-11,20-dione
20α-Dihydroprogesterone	20α-Hydroxy-4-pregnen-3-one

*In this instance, "Tetrahydro" indicates addition of hydrogen to a double bond and a carbonyl group.

Such names may not be used in the title nor in the summary. They may be used in the text when their meaning is clearly defined by the subject-matter (e.g. pregnenolone as an intermediate in the biosynthesis of progesterone or pregnanediol estimated in the urine). Otherwise, they should be used in the same manner as less familiar trivial names (see below).

Less familiar trivial names are acceptable only when their use leads to a substantial saving of space, i.e. when they are much shorter than their systematic names and when they are frequently referred to. Their systematic names should be given at their first mention when only one or a few such trivial names are used. Otherwise, their systematic names should be listed in a footnote or tabulated in the text.

No trivial name may designate an impossible structure (e.g. 20-hydroxyprogesterone).

III. Abbreviations

The use of abbreviations should be largely confined to tables and figures. Commonly used abbreviations such as DHA (dehydroepiandrosterone) or DOC (deoxycorticosterone) are acceptable in the text. Less common abbreviations may be used in the text only when this leads to a substantial saving of space without loss of clarity. All abbreviations must be defined in the text, in a footnote to the text, a footnote to a table, or in the legend to a figure, as appropriate.

OTHER ABBREVIATIONS AND SYMBOLS

The Journal of Steroid Biochemistry and Molecular Biology 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 "centimetres" 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.

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 acetyl-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	Chlorionic 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.
concentration	conc.
counts/minute	cpm
crystalline	cryst.
curie ($3{\cdot}7 \times 10^{10}$ d.p.s.)	Ci
diffusion coefficient	D
diffusion coefficient, correlated to 20° in water, at zero concentration	$D^0_{20,w}$
dilute	dil.
disintegrations/minute	dpm
disintegrations/second	dps
equilibrium constant	K
gas–liquid chromatography	GLC
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
millimolar (amount)	mmol (not mM)
minimum	min.
minute (60 s)	min
molar (conc.)	M *or* mol/l
mole	mol
nanogram(me)	ng
nuclear magnetic resonance	NMR
per	/
per cent	%
picogram(me)	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 (or rpm)
second (time)	s
sedimentation coefficient	*s*
soluble	sol.
solution	soln
solvent systems	*e.g.* benzene–hexane–water (4:2:1, by vol) benzene–water (2:1, v/v)
specific activity	SA or sp.act.
standard deviation	SD
standard error of the mean	SEM
Svedberg unit of sedimentation coefficient (10^{-13} s)	S
thin-layer chromatography	TLC
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 presenting 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* (Edited by Marcel Florkin and Elmer H. Stotz, *Comprehensive Biology*, Vol. 13, Elsevier, 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 labeled 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 postion of the isotope in the compound.