International Nonproprietary Names for Pharmaceutical Substances

In accordance with paragraph 7 of the Procedure for the Selection of Recommended International Nonproprietary Names for Pharmaceutical Substances,[1] notice is hereby given that the following are selected as recommended international nonproprietary names.

The inclusion of a name in the lists of recommended international nonproprietary names does not imply any recommendation for the use of the substance in medicine or pharmacy.

Recommended International Nonproprietary Names (Rec. INN): List 29[2]

Recommended International Nonproprietary Name (Latin, English)	*Chemical Name or Description and Molecular Formulae*
abecarnilum abecarnil	isopropyl 6-(benzyloxy)-4-(methoxymethyl)-9*H*-pyrido[3,4-*b*]indole-3-carboxylate $C_{24}H_{24}N_2O_4$
acemannanum acemannan	(1→4)-*β*-D-mannurono-2-acetamido-2-deoxy-*β*-D-gluco-*β*-D-mannan 3-acetate
acidum butedronicum butedronic acid	(diphosphonomethyl)succinic acid $C_5H_{10}O_{10}P_2$
acidum gadotericum gadoteric acid	hydrogen [1,4,7,10-tetraazacyclododecane-1,4,7,10-tetraacetato(4-)]-gadolinate(1-) $C_{16}H_{25}GdN_4O_8$
acidum pamidronicum pamidronic acid	(3-amino-1-hydroxypropylidene)diphosphonic acid $C_3H_{11}NO_7P_2$
acidum tiludronicum tiludronic acid	[[(*p*-chlorophenyl)thio]methylene]diphosphonic acid $C_7H_8ClO_6P_2S$
actisomidum actisomide	(±)-*cis*-4-[2-(diisopropylamino)ethyl]-4,4a,5,6,7,8-hexahydro-1-methyl-4-phenyl-3*H*-pyrido[1,2-*c*]pyrimidin-3-one $C_{23}H_{35}N_3O$
alfadexum alfadex	*α*-cyclodextrin $C_{36}H_{60}O_{30}$

[1] *Off. Rec. Wld Hlth Org.*, 1955, **60**, 3 (Resolution EB15.R7); 1969, **1973**, 10 (Resolution EB43.R9).
[2] Other lists of recommended international nonproprietary names can be found in *Cumulative List No. 7, 1988.*

Recommended International Nonproprietary Name (Latin, English)	*Chemical Name or Description and Molecular Formulae*
alteplasum alteplase	plasminogen activator (human tissue-type 2-chain form protein moiety) $C_{2736}H_{4174}N_{814}O_{824}S_{45}$
ambamustinum ambamustine	*N*-[3-[*m*-[bis(2-chloroethyl)amino]phenyl]-*N*-[3-(*p*-fluorophenyl)-L-alanyl]-L-alanyl]-L-methionine, ethyl ester $C_{29}H_{38}Cl_2FN_4O_4S$
ambasilidum ambasilide	3-(*p*-aminobenzoyl)-7-benzyl-3,7-diazabicyclo[3.3.1]nonane $C_{21}H_{25}N_3O$
amilomerum amilomer	microspheres produced by reaction of partially hydrolysed starch with epichlorhydrin, quickly degradable by amylase (with a half-life of less than 120 minutes) The name is followed by a hyphenated numerical code in which the nur. preceding the hyphen indicates the half-life in minutes and that following the hyphen indicates the mean diameter of the microspheres in µm. e.g. *amilomer 25–45* has a half-life of 25 minutes and a mean diameter of 45 µm. The methods of determining these parameters are approved by the competent national authority.
anistreplasum anistreplase	anisoylated (human) lys-plasminogen streptokinase activator complex (1 : 1)
antithrombinum III antithrombin III	antithrombin III. The source of the product should be indicated.
apafantum apafant	4-[3-[4-(*o*-chlorophenyl)-9-methyl-6*H*-thieno[3,2-*f*]-*s*-triazolo[4,3-*a*]-[1,4]diazepin-2-yl]propionyl]morpholine $C_{22}H_{22}ClN_5O_3S$
apraclonidinum apraclonidine	2-[(4-amino-2,6-dichlorophenyl)imino]imidazolidine $C_9H_{10}Cl_2N_4$
argimesnum argimesna	L-arginine mono(2-mercaptoethanesulfonate) $C_8H_{20}N_4O_5S_2$
arpromidinum arpromidine	(±)-1-[3-(*p*-fluorophenyl)-3-(2-pyridyl)propyl]-3-(3-imidazol-4-ylpropyl)-guanidine $C_{21}H_{25}FN_6$
atosibanum atosiban	1-(3-mercaptopropionic acid)-2-[3-(*p*-ethoxyphenyl)-D-alanine]-4-L-threonine-8-L-ornithineoxytocin $C_{43}H_{67}N_{11}O_{12}S_2$
azetirelinum azetirelin	(−)-*N*-[[(2*S*)-4-oxo-2-azetidinyl]carbonyl]-L-histidyl-L-prolinamide $C_{18}H_{20}N_6O_4$
barmastinum barmastine	3-[2-[4-[(3-furfuryl-3*H*-imidazo[4,5-*b*]pyridin-2-yl)amino]piperidino]ethyl]-2-methyl-4*H*-pyrido[1,2-*a*]pyrimidin-4-one $C_{27}H_{28}N_7O_2$
baxitozinum baxitozine	(*E*)-3-(3,4,5-trimethoxybenzoyl)acrylic acid $C_{13}H_{14}O_6$
bepafantum bepafant	4-[[6-(*o*-chlorophenyl)-8,9-dihydro-1-methyl-4*H*,7*H*-cyclopenta[4,5]thieno-[3,2-*f*]-*s*-triazolo[4,3-*a*][1,4]diazepin-8-yl]carbonyl]morpholine $C_{23}H_{22}ClN_5O_2S$
beraprostum beraprost	(±)-(1*R**,2*R**,3a*S**,8b*S**)-2,3,3a,8b-tetrahydro-2-hydroxy-1-[(*E*)-(3*S**)-3-hydroxy-4-methyl-1-octen-6-ynyl]-1*H*-cyclopenta[*b*]benzofuran-5-butyric acid $C_{24}H_{30}O_5$

Recommended International Nonproprietary Name (Latin, English)	*Chemical Name or Description and Molecular Formulae*
betiatidum betiatide	*N*-[*N*-[*N*-(mercaptoacetyl)glycyl]glycyl]glycine benzoate (ester) $C_{15}H_{17}N_3O_6S$
binfloxacinum binfloxacin	7-(1,4-diazabicyclo[3.2.2]non-4-yl)-1-ethyl-6-fluoro-1,4-dihydro-4-oxo-3-quinolinecarboxylic acid $C_{19}H_{22}FN_3O_3$
binizolastum binizolast	1-(piperidinomethyl)-4-propyl-*s*-triazolo[4,3-*a*]quinazolin-5(4*H*)-one $C_{18}H_{23}N_5O$
bisaramilum bisaramil	*syn*-3-ethyl-7-methyl-3,7-diazabicyclo[3.3.1]non-9-yl *p*-chlorobenzoate $C_{17}H_{23}ClN_2O_2$
bretazenilum bretazenil	*tert*-butyl (*S*)-8-bromo-11,12,13,13a-tetrahydro-9-oxo-9*H*-imidazo-[1,5-*a*]pyrrolo[2,1-*c*][1,4]benzodiazepine-1-carboxylate $C_{19}H_{20}BrN_3O_3$
brivudinum brivudine	(*E*)-5-(2-bromovinyl)-2′-deoxyuridine $C_{11}H_{13}BrN_2O_5$
bunaprolastum bunaprolast	2-butyl-4-methoxy-1-naphthol acetate $C_{17}H_{20}O_3$
cefcanelum cefcanel	(6*R*,7*R*)-7-[(*R*)-mandelamido]-3-[[(5-methyl-1,3,4-thiadiazol-2-yl)thio]methyl]-8-oxo-5-thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid $C_{19}H_{18}N_4O_5S_3$
cefcanelum daloxatum cefcanel daloxate	2,3-dihydroxy-2-butenyl (6*R*,7*R*)-7-[(*R*)-mandelamido]-3-[[(5-methyl-1,3,4-thiadiazol-2-yl)thio]methyl]-8-oxo-5-thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylate, cyclic 2,3-carbonate, ester with L-alanine $C_{27}H_{27}N_5O_9S_3$
cefprozilum cefprozil	(6*R*,7*R*)-7-[(R)-2-amino-2-(*p*-hydroxyphenyl)acetamido]-8-oxo-3-(1-propenyl)-5-thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid $C_{18}H_{19}N_3O_5S$
cefquinomum cefquinome	1-[[(6*R*,7*R*)-7-[2-(2-amino-4-thiazolyl)glyoxylamido]-2-carboxy-8-oxo-5-thia-1-azabicyclo[4.2.0]oct-2-en-3-yl]methyl]-5,6,7,8-tetrahydroquinolinium hydroxide, inner salt, 7²-(*Z*)-(*O*-methyloxime) $C_{23}H_{24}N_6O_5S_2$
ceftibutenum ceftibuten	(+)-(6*R*,7*R*)-7-[(*Z*)-2-(2-amino-4-thiazolyl)-4-carboxycrotonamido]-8-oxo-5-thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid $C_{15}H_{14}N_4O_6S_2$
cilofunginum cilofungin	1-[(4*R*,5*R*)-4,5-dihydroxy-N^2-[*p*-(octyloxy)benzoyl]-L-ornithine]echinocandin B or (4*R*,5*R*)-4,5-dihydroxy-N^2-[*p*-(octyloxy)benzoyl]-L-ornithyl-L-threonyl-*trans*-4-hydroxy-L-prolyl-(*S*)-4-hydroxy-4-(*p*-hydroxyphenyl)-L-threonyl-L-threonyl-(3*S*,4*S*)-3-hydroxy-4-methyl-L-proline cyclic (6→1)-peptide $C_{49}H_{71}N_7O_{17}$
cisconazolum cisconazole	(±)-*cis*-1-[[3-[(2,6-difluorobenzyl)oxy]-5-fluoro-2,3-dihydrobenzo[*b*]thien-2-yl]methyl]imidazole $C_{19}H_{15}F_3N_2OS$
clarithromycinum clarithromycin	6-*O*-methylerythromycin $C_{38}H_{69}NO_{13}$

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colestolonum colestolone	3β-hydroxy-5α-cholest-8(14)-en-15-one $C_{27}H_{44}O_2$
colextranum colextran	dextran 2-(diethylamino)ethyl ether
cyromazinum cyromazine	cyclopropylmelamine $C_6H_{10}N_6$
daptomycinum daptomycin	*N*-decanoyl-L-tryptophyl-L-asparaginyl-L-aspartyl-L-threonylglycyl-L-ornithyl-L-aspartyl-D-alanyl-L-aspartylglycyl-D-seryl-*threo*-3-methyl-L-glutamyl-3-anthraniloyl-L-alanine, ε_1-lactone $C_{72}H_{101}N_{17}O_{26}$
delfaprazinum delfaprazine	1-(α²-phenyl-2,5-xylyl)piperazine $C_{18}H_{22}N_2$
delmopinolum delmopinol	(±)-3-(4-propylheptyl)-4-morpholineethanol $C_{16}H_{33}NO_2$
dexmedetomidinum dexmedetomidine	(+)-4-[(*R*)-α,2,3-trimethylbenzyl]imidazole $C_{13}H_{16}N_2$
diprafenonum diprafenone	(±)-2′-[2-hydroxy-3-(*tert*-pentylamino)propoxy]-3-phenylpropiophenone $C_{23}H_{31}NO_3$
dizocilpinum dizocilpine	(+)-10,11-dihydro-5-methyl-5*H*-dibenzo[*a*,*d*]cyclohepten-5,10-imine $C_{16}H_{16}N$
docarpaminum docarpamine	(−)-(*S*)-2-acetamido-*N*-(3,4-dihydroxyphenethyl)-4-(methylthio)butyramide bis(ethyl carbonate) (ester) $C_{21}H_{30}N_2O_8S$
dopropidilum dopropidil	1-[1-(isobutoxymethyl)-2-[[1-(1-propynyl)cyclohexyl]oxy]ethyl]pyrrolidine $C_{20}H_{35}NO_2$
doretinelum doretinel	(±)-*p*-[(*E*)-2-(5,6,7,8-tetrahydro-7-hydroxy-5,5,8,8-tetramethyl-2-naphthyl)-propenyl]benzyl alcohol $C_{24}H_{30}O_2$
dumorelinum dumorelin	27-L-leucine-44a-glycinegrowth hormone-releasing factor (human) $C_{216}H_{362}N_{72}O_{68}$
edelfosinum edelfosine	choline hydroxide, (±)-2-methoxy-3-(octadecyloxy)propyl hydrogen phosphate, inner salt or 2-*O*-methyl-1-*O*-octadecyl-*rac*-glycero-3-phosphocholine $C_{27}H_{58}NO_6P$
efaroxanum efaroxan	(±)-2-(2-ethyl-2,3-dihydro-2-benzofuranyl)-2-imidazoline $C_{13}H_{16}N_2O$
elbanizinum elbanizine	1-[2-[(2,6-dimethyl-3-nitro-4-pyridyl)amino]ethyl]-4-(diphenylmethyl)-piperazine $C_{26}H_{31}N_5O_2$
elnadipinum elnadipine	isopropyl (−)-(*S*)-4-(2,3-dichlorophenyl)-1,4-dihydro-2,6-dimethyl-5-(1,3,4-oxadiazol-2-yl)nicotinate $C_{19}H_{19}Cl_2N_3O_3$

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emedastinum emedastine	1-(2-ethoxyethyl)-2-(hexahydro-4-methyl-1*H*-1,4-diazepin-1-yl)benzimidazole $C_{17}H_{26}N_4O$
endixaprinum endixaprine	1-[6-(2,4-dichlorophenyl)-3-pyridazinyl]-4-piperidinol $C_{15}H_{15}Cl_2N_3O$
epicriptinum epicriptine	9,10α-dihydro-13'-epi-β-ergocryptine or (13'*R*)-9,10α-dihydro-β-ergocryptine $C_{32}H_{43}N_5O_5$
erbulozolum erbulozole	ethyl (±)-*cis*-*p*-[[[2-(imidazol-1-ylmethyl)-2-(*p*-methoxyphenyl)-1,3-dioxolan-4-yl]methyl]thio]carbanilate $C_{24}H_{27}N_3O_4S$
esafloxacinum esafloxacin	(±)-7-(3-amino-1-pyrrolidinyl)-1-ethyl-6-fluoro-1,4-dihydro-4-oxo-1,8-naphthyridine-3-carboxylic acid $C_{15}H_{17}FN_4O_3$
etrabaminum etrabamine	4,5,6,7-tetrahydro-6-(methylamino)benzothiazole $C_8H_{12}N_2S$
famiraprinii chloridum famiraprinium chloride	6-amino-1-(3-carboxypropyl)-5-methyl-3-phenylpyridazinium chloride $C_{15}H_{16}ClN_3O_2$
fiacitabinum fiacitabine	1-(2-deoxy-2-fluoro-β-D-arabinofuranosyl)-5-iodocytosine $C_9H_{11}FIN_3O_4$
flerobuterolum flerobuterol	α-[(*tert*-butylamino)methyl]-*o*-fluorobenzyl alcohol $C_{12}H_{18}FNO$
fluparoxanum fluparoxan	(3a*S*,9a*S*)-5-fluoro-2,3,3a,9a-tetrahydro-1*H*-[1,4]benzodioxino[2,3-*c*]pyrrole $C_{10}H_{10}FNO_2$
fronepidilum fronepidil	1-[1-(isobutoxymethyl)-2-[(1-methyl-1-phenyl-2-propynyl)oxy]ethyl]pyrrolidine $C_{21}H_{31}NO_2$
gadopenamidum gadopenamide	[*N*,*N*-bis[2-[(carboxymethyl)[(morpholinocarbonyl)methyl]amino]ethyl]-glycinato(3-)]gadolinium $C_{22}H_{34}GdN_5O_{10}$
galtifeninum galtifenin	[[[(2,6-diethyl-3-iodophenyl)carbamoyl]methyl]imino]diacetic acid $C_{18}H_{25}IN_2O_5$
gapromidinum gapromidine	1-(3-imidazol-4-ylpropyl)-3-[2-(2-pyridylamino)ethyl]guanidine $C_{14}H_{21}N_7$
glisentidum glisentide	1-cyclopentyl-3-[[*p*-[2-(*o*-anisamido)ethyl]phenyl]sulfonyl]urea $C_{22}H_{27}N_3O_5S$
granisetronum granisetron	1-methyl-*N*-(*endo*-9-methyl-9-azabicyclo[3.3.1]non-3-yl)-1*H*-indazole-3-carboxamide $C_{18}H_{24}N_4O$
ibafloxacinum ibafloxacin	9-fluoro-6,7-dihydro-5,8-dimethyl-1-oxo-1*H*,5*H*-benzo[*ij*]quinolizine-2-carboxylic acid $C_{15}H_{14}FNO_3$

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imidaprilum imidapril	(4*S*)-3-[(2*S*)-*N*-[(1*S*)-1-carboxy-3-phenylpropyl]alanyl]-1-methyl-2-oxo-4-imidazolidinecarboxylic acid, 3-ethyl ester $C_{20}H_{27}N_3O_6$
imirestatum imirestat	2,7-difluorospiro[fluorene-9,4'-imidazolidine]-2',5'-dione $C_{15}H_8F_2N_2O_2$
inaperisonum inaperisone	(±)-4'-ethyl-2-methyl-3-(1-pyrrolidinyl)propiophenone $C_{16}H_{23}NO$
iotrisidum iotriside	(±)-*N*,*N*'-bis(2,3-dihydroxypropyl)-2,4,6-triiodo-*N*-methyl-1,3,5-benzenetricarboxamide $C_{16}H_{20}I_3N_3O_7$
ioxilanum ioxilan	*N*-(2,3-dihydroxypropyl)-5-[*N*-(2,3-dihydroxypropyl)acetamido]-*N*'-(2-hydroxyethyl)-2,4,6-triiodoisophthalamide $C_{19}H_{24}I_3N_3O_8$
irtemazolum irtemazole	(±)-5-(α-imidazol-1-ylbenzyl)-2-methylbenzimidazole $C_{18}H_{16}N_4$
isbogrelum isbogrel	(*E*)-7-phenyl-7-(3-pyridyl)-6-heptenoic acid $C_{18}H_{19}NO_2$
ivarimodum ivarimod	4-[[(3a*R*,3b*S*,5a*R*,6*R*,9a*R*,9b*R*,11*R*,11a*R*)-1,2,3,3a,4,5,5a,6,7,8,9,9a,9b,10,11,11a-hexadecahydro-2-(2-hydroxyethyl)-12-isopropyl-6,9a-dimethyl-1,3-dioxo-3b,11-etheno-3b*H*-naphth[2,1-*e*]isoindol-6-yl]carbonyl]morpholine $C_{30}H_{44}N_2O_6$
lansoprazolum lansoprazole	2-[[[3-methyl-4-(2,2,2-trifluoroethoxy)-2-pyridyl]methyl]sulfinyl]benzimidazole $C_{16}H_{14}F_3N_3O_2S$
laprafyllinum laprafylline	8-[2-[4-(diphenylmethyl)-1-piperazinyl]ethyl]-3-isobutyl-1-methylxanthine $C_{29}H_{36}N_6O_2$
locicortoloni dicibas locicortolone dicibate	9,11β-dichloro-21-hydroxy-16α-methylpregna-1,4-diene-3,20-dione dicyclohexylmethyl carbonate $C_{36}H_{50}Cl_2O_5$
lodelabenum lodelaben	(±)-2-chloro-4-(1-hydroxyoctadecyl)benzoic acid $C_{25}H_{41}ClO_3$
loracarbefum loracarbef	(6*R*,7*S*)-7-[(*R*)-2-amino-2-phenylacetamido]-3-chloro-8-oxo-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid $C_{16}H_{16}ClN_3O_4$
loreclezolum loreclezole	(*Z*)-1-(β,2,4-trichlorostyryl)-1*H*-1,2,4-triazole $C_{10}H_6Cl_3N_3$
lornoxicamum lornoxicam	6-chloro-4-hydroxy-2-methyl-*N*-2-pyridyl-2*H*-thieno[2,3-*e*]-1,2-thiazine-3-carboxamide 1,1-dioxide $C_{13}H_{10}ClN_3O_4S_2$
lorpiprazolum lorpiprazole	(±)-*cis*-5,5a,6,7,8,8a-hexahydro-3-[2-[4-(α,α,α-trifluoro-*m*-tolyl)-1-piperazinyl]ethyl]cyclopenta[3,4]pyrrolo[2,1-*c*]-*s*-triazole $C_{21}H_{26}F_3N_5$
manidipinum manidipine	2-[4-(diphenylmethyl)-1-piperazinyl]ethyl methyl (±)-1,4-dihydro-2,6-dimethyl-4-(*m*-nitrophenyl)-3,5-pyridinedicarboxylate $C_{35}H_{38}N_4O_6$

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meropenemum meropenem	(4*R*,5*S*,6*S*)-3-[[(3*S*,5*S*)-5-(dimethylcarbamoyl)-3-pyrrolidinyl]thio]-6-[(1*R*)-1-hydroxyethyl]-4-methyl-7-oxo-1-azabicyclo[3.2.0]hept-2-ene-2-carboxylic acid $C_{17}H_{25}N_3O_5S$
mertiatidum mertiatide	*N*-[*N*-[*N*-(mercaptoacetyl)glycyl]glycyl]glycine $C_8H_{13}N_3O_5S$
metalkonii chloridum metalkonium chloride	benzyl[(dodecylcarbamoyl)methyl]dimethylammonium chloride $C_{23}H_{41}ClN_2O$
methoprenum methoprene	isopropyl (2*E*,4*E*)-(7*S*)-11-methoxy-3,7,11-trimethyl-2,4-dodecadienoate $C_{19}H_{34}O_3$
milnacipranum milnacipran	(±)-*cis*-2-(aminomethyl)-*N*,*N*-diethyl-1-phenylcyclopropanecarboxamide $C_{15}H_{21}N_2O$
mirosamicinum mirosamicin	14-hydroxymycinamicin I or (−)-(1*R*,2*S*,3*R*,6*E*,8*S*,9*S*,10*S*,12*R*,14*E*,16*S*)-2-[[(6-deoxy-2,3-di-*O*-methyl-β-D-allopyranosyl)oxy]methyl]-3-ethyl-2-hydroxy-8,10,12-trimethyl-9-[[3,4,6-trideoxy-3-(dimethylamino)-β-D-*xylo*-hexopyranosyl]oxy]-4,17-dioxabicyclo[14.1.0]heptadeca-6,14-diene-5,13-dione $C_{37}H_{61}NO_{13}$
mitoflaxonum mitoflaxone	4-oxo-2-phenyl-4*H*-1-benzopyran-8-acetic acid $C_{17}H_{12}O_4$
moexiprilum moexipril	(3*S*)-2-[(2*S*)-*N*-[(1*S*)-1-carboxy-3-phenylpropyl]alanyl]-1,2,3,4-tetrahydro-6,7-dimethoxy-3-isoquinolinecarboxylic acid, 2-ethyl ester $C_{27}H_{34}N_2O_7$
moxiraprinum moxirapine	*p*-[5-methyl-6-[(2-morpholinoethyl)amino]-3-pyridazinyl]phenol $C_{17}H_{22}N_4O_2$
murodermin murodermin	urogastrone (mouse salivary gland) or epidermal growth factor (mouse salivary gland)
muromonabum-CD3 muromonab-CD3	a biochemically purified IgG_{2a} immunoglobulin consisting of a heavy chain of approx. 50,000 daltons and a light chain of approx. 25,000 daltons It is manufactured by a process involving the fusion of mouse myeloma cells to lymphocytes from immunized animals to produce a hybridoma which secretes antigen-specific antibodies to the T3 antigen of human T-lymphocytes.
nanterinonum nanterinone	6-(2,4-dimethylimidazol-1-yl)-8-methylcarbostyril $C_{15}H_{15}N_3O$
napirimusum napirimus	1-methyl-4-(1-naphtholyl)pyrrole-2-carboxylic acid $C_{17}H_{13}NO_3$
natrii pentosani polysulfas pentosan polysulfate sodium	(1→4)-β-D-xylan 2,3-bis(hydrogen sulfate), sodium salt $(C_5H_6Na_2O_{10}S_2)_n$
naxagolidum naxagolide	(+)-(4a*R*,10b*R*)-3,4,4a,5,6,10b-hexahydro-4-propyl-2*H*-naphth[1,2-*b*]-1,4-oxazin-9-ol $C_{15}H_{21}NO_2$

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nebracetamum nebracetam	(±)-4-(aminomethyl)-1-benzyl-2-pyrrolidinone $C_{12}H_{16}N_2O$
neldazosinum neldazosin	(±)-1-(4-amino-6,7-dimethoxy-2-quinazolinyl)-4-(3-hydroxybutyryl)piperazine $C_{18}H_{26}N_5O_4$
nelezaprinum nelezaprine	(*E*)-9-chloro-11-[3-(dimethylamino)propylidene]-6,11-dihydro-5*H*-pyrrolo[2,1-*b*][3]benzazepine $C_{16}H_{21}ClN_2$
nemadectinum nemadectin	(6*R*,23*S*,25*S*)-5-*O*-demethyl-28-deoxy-25-[(*E*)-1,3-dimethyl-1-butenyl]-6,28-epoxy-23-hydroxymilbemycin B $C_{36}H_{52}O_8$
nicaravenum nicaraven	(±)-*N*,*N*′-propylenebis[nicotinamide] $C_{19}H_{16}N_4O_2$
noberastinum noberastine	3-(5-methylfurfuryl)-2-(4-piperidylamino)-3*H*-imidazo[4,5-*b*]pyridine $C_{17}H_{21}N_5O$
nuvenzepinum nuvenzepine	6,11-dihydro-11-(1-methylisonipecotoyl)-5*H*-pyrido[2,3-*b*][1,5]benzodiazepin-5-one $C_{19}H_{20}N_4O_2$
ondansetronum ondansetron	(±)-2,3-dihydro-9-methyl-3-[(2-methylimidazol-1-yl)methyl]carbazol-4(1*H*)-one $C_{18}H_{19}N_3O$
oxamisolum oxamisole	(±)-2,3,6,7-tetrahydro-2-phenylimidazo[1,2-*a*]pyridin-8(5*H*)-one, dimethyl acetal $C_{15}H_{20}N_2O_2$
pelretinum pelretin	(*E*,*E*,*E*)-*p*-[4-methyl-6-(2,6,6-trimethyl-1-cyclohexen-1-yl)-1,3,5-hexatrienyl]-benzoic acid $C_{23}H_{28}O_2$
pentamorphonum pentamorphone	7,8-didehydro-4,5α-epoxy-3-hydroxy-17-methyl-14-(pentylamino)morphinan-6-one $C_{22}H_{28}N_2O_3$
pentigetidum pentigetide	N^2-[1-[*N*-(*N*-L-α-aspartyl-L-seryl)-L-α-aspartyl-L-prolyl]-L-arginine $C_{22}H_{36}N_8O_{11}$
pentisomidum pentisomide	(±)-α-[2-(diisopropylamino)ethyl]-α-isobutyl-2-pyridineacetamide $C_{19}H_{33}N_3O$
perfomedilum perfomedil	(±)-2′,4′,6′-trimethoxy-4-(3-methylpiperidino)butyrophenone $C_{19}H_{29}NO_4$
phenylpropanolaminum phenylpropanolamine	(±)-norephedrine $C_9H_{13}NO$
pioglitazonum pioglitazone	(±)-5-[*p*-[2-(5-ethyl-2-pyridyl)ethoxy]benzyl]-2,4-thiazolidinedione $C_{19}H_{20}N_2O_3S$

Recommended International Nonproprietary Name (Latin, English)	*Chemical Name or Description and Molecular Formulae*
piroxantronum piroxantrone	5-[(3-aminopropyl)amino]-7,10-dihydroxy-2-[2-[(2-hydroxyethyl)amino]-ethyl]anthra[1,9-*cd*]pyrazol-6(2*H*)-one $C_{21}H_{25}N_5O_4$
posatirelinum posatirelin	(2*S*)-*N*-[(1*S*)-1-[[(2*S*)-2-carbamoyl-1-pyrrolidinyl]carbonyl]-3-methylbutyl]-6-oxopipecolamide $C_{17}H_{28}N_4O_4$
pravadolinum pravadoline	*p*-methoxyphenyl 2-methyl-1-(2-morpholinoethyl)indol-3-yl ketone $C_{23}H_{26}N_2O_3$
prifelonum prifelone	3,5-di-*tert*-butyl-4-hydroxyphenyl 2-thienyl ketone $C_{18}H_{24}O_2S$
quinaprilatum quinaprilat	(3*S*)-2-[(*S*)-*N*-[(*S*)-1-carboxy-3-phenylpropyl]alanyl]-1,2,3,4-tetrahydro-3-isoquinolinecarboxylic acid $C_{23}H_{26}N_2O_5$
quineloranum quinelorane	(−)-(5a*R*,9a*R*)-2-amino-5,5a,6,7,8,9,9a,10-octahydro-6-propylpyrido[2,3-*g*]quinazoline $C_{14}H_{22}N_4$
renzapridum renzapride	(±)-*endo*-4-amino-*N*-1-azabicyclo[3.3.1]non-4-yl-5-chloro-*o*-anisamide $C_{18}H_{22}ClN_3O_2$
ridogrelum ridogrel	(*E*)-5-[[[α-3-pyridyl-*m*-(trifluoromethyl)benzylidene]amino]oxy]valeric acid $C_{18}H_{17}F_3N_2O_3$
riluzolum riluzole	2-amino-6-(trifluoromethoxy)benzothiazole $C_8H_5F_3N_2OS$
romazaritum romazarit	2-[[2-(*p*-chlorophenyl)-4-methyl-5-oxazolyl]methoxy]-2-methylpropionic acid $C_{15}H_{16}ClNO_4$
rosterolonum rosterolone	17β-hydroxy-1α-methyl-17-propyl-5α-androstan-3-one $C_{23}H_{38}O_2$
rotraxatum rotraxate	*p*-[[*trans*-4-(aminomethyl)cyclohexyl]carbonyl]hydrocinnamic acid $C_{17}H_{23}NO_3$
roxindolum roxindole	3-[4-(3,6-dihydro-4-phenyl-1(2*H*)-pyridyl)butyl]indol-5-ol $C_{23}H_{26}N_2O$
saperconazolum saperconazole	(±)-1-*sec*-butyl-4-[*p*-[4-[*p*-[[(2R*,4S*)-2-(2,4-difluorophenyl)-2-(1*H*-1,2,4-triazol-1-ylmethyl)-1,3-dioxolan-4-yl]methoxy]phenyl]-1-piperazinyl]phenyl]-Δ^2-1,2,4-triazolin-5-one $C_{35}H_{38}F_2N_8O_4$
sarmazenilum sarmazenil	ethyl 7-chloro-5,6-dihydro-5-methyl-6-oxo-4*H*-imidazo-[1,5-*a*][1,4]benzodiazepine-3-carboxylate $C_{15}H_{14}ClN_3O_3$

Recommended International Nonproprietary Name (Latin, English)	*Chemical Name or Description and Molecular Formulae*
semduramicinum semduramicin	(3*R*,4*S*,5*S*,6*R*,7*S*,22*S*)-23,27-didemethoxy-2,6,22-tridemethyl-5,11-di-*O*-demethyl-6-methoxy-22-[[(2*S*,5*S*,6*R*)-tetrahydro-5-methoxy-6-methyl-2*H*-pyran-2-yl]oxy]lonomycin A *or* (2*R*,3*S*,4*S*,5*R*,6*S*)-tetrahydro-2,4-dihydroxy-6-[(1*R*)-1-[(2*S*,5*R*,7*S*,8*R*,9*S*)-9-hydroxy-2,8-dimethyl-2-[(2*R*,5*S*)-tetrahydro-5-methyl-5-[(2*R*,3*S*,5*R*)-tetrahydro-5-[(2*S*,3*S*,5*R*,6*S*)-tetrahydro-6-hydroxy-3,5,6-trimethyl-2*H*-pyran-2-yl]-3-[[(2*S*,5*S*,6*R*)-tetrahydro-5-methoxy-6-methyl-2*H*-pyran-2-yl]oxy]-2-furyl]-2-furyl]-1,6-dioxaspiro[4.5]dec-7-yl]ethyl]-5-methoxy-3-methyl-2*H*-pyran-2-acetic acid $C_{43}H_{78}O_{16}$
sergolexolum sergolexole	*trans*-4-methoxycyclohexyl 1-isopropyl-6-methylergoline-8β-carboxylate $C_{26}H_{38}N_2O_3$
siguazodanum siguazodan	2-cyano-1-methyl-3-[*p*-(1,4,5,6-tetrahydro-4-methyl-6-oxo-3-pyridazinyl)phenyl]guanidine $C_{14}H_{16}N_6O$
sitalidonum sitalidone	(±)-2-chloro-4′-hydroxy-5-(2-hydroxy-1-methyl-5-oxo-2-pyrrolidinyl)-3′,5′-diisopropylbenzenesulfonanilide $C_{23}H_{29}ClN_2O_5S$
spiraprilatum spiraprilat	(8*S*)-7-[(*S*)-*N*-[(*S*)-1-carboxy-3-phenylpropyl]alanyl]-1,4-dithia-7-azaspiro[4.4]nonane-8-carboxylic acid $C_{20}H_{28}N_2O_5S_2$
spirofyllinum spirofylline	8-phenethyl-3-[(1,2,3,6-tetrahydro-1,3-dimethyl-2,6-dioxopurin-7-yl)acetyl]-1-oxa-3,8-diazaspiro[4.5]decan-2-one $C_{24}H_{28}N_6O_5$
sumatriptanum sumatriptan	3-[2-(dimethylamino)ethyl]-*N*-methylindole-5-methanesulfonamide $C_{14}H_{21}N_3O_2S$
tabilautidum tabilautide	*threo*-6-carbamoyl-*N*²-[*N*-(*N*-lauroyl-L-alanyl)-D-γ-glutamyl]-L-lysine $C_{27}H_{49}N_5O_6$
tandospironum tandospirone	(1*R**,2*S**,3*R**,4*S**)-*N*-[4-[4-(2-pyrimidinyl)-1-piperazinyl]butyl]-2,3-norbornanedicarboximide $C_{21}H_{29}N_5O_2$
tazanolastum tazanolast	butyl 3′-(1*H*-tetrazol-5-yl)oxanilate $C_{13}H_{16}N_5O_3$
tazobactamum tazobactam	(2*S*,3*S*,5*R*)-3-methyl-7-oxo-3-(1*H*-1,2,3-triazol-1-ylmethyl)-4-thia-1-azabicyclo[3.2.0]heptane-2-carboxylic acid, 4,4-dioxide $C_{10}H_{12}N_4O_5S$
technetium (^{99m}Tc) sestamibi technetium (^{99m}Tc) sestamibi	hexakis(2-methoxy-2-methylpropyl isocyanide)[^{99m}Tc]technetium(1+) $C_{36}H_{66}N_6O_6{}^{99m}Tc$
tedisamilum tedisamil	3′,7′-bis(cyclopropylmethyl)spiro[cyclopentane-1,9′-[3,7]diazabicyclo[3.3.1]nonane] $C_{19}H_{32}N_2$
temafloxacinum temafloxacin	(±)-1-(2,4-difluorophenyl)-6-fluoro-1,4-dihydro-7-(3-methyl-1-piperazinyl)-4-oxo-3-quinolinecarboxylic acid $C_{21}H_{18}F_3N_3O_3$

Recommended International Nonproprietary Name (Latin, English)	*Chemical Name or Description and Molecular Formulae*
temurtidum temurtide	2-acetamido-3-*O*-[[(1*R*)-1-[(1*S*,2*R*)-1-[[(1*R*)-1-carbamoyl-3-carboxypropyl]-carbamoyl}-2-hydroxypropyl]carbamoyl]ethyl}-2-deoxy-D-glucopyranose $C_{20}H_{34}N_4O_{12}$
thrombinum thrombin	thrombin or E.C. 3.4.21.5 The source of the product should be indicated
thymocartinum thymocartin	*N*-[*N*-(*N*^{2}-L-arginyl-L-lysyl)-L-α-aspartyl]-L-valine $C_{21}H_{40}N_8O_7$
tomelukastum tomelukast	2′-hydroxy-3′-propyl-4′-[4-(1*H*-tetrazol-5-yl)butoxy]acetophenone $C_{16}H_{22}N_4O_3$
tosufloxacinum tosufloxacin	(±)-7-(3-amino-1-pyrrolidinyl)-1-(2,4-difluorophenyl)-6-fluoro-1,4-dihydro-4-oxo-1,8-naphthyridine-3-carboxylic acid $C_{19}H_{15}F_3N_4O_3$
trandolaprilatum trandolaprilat	(2*S*,3a*R*,7a*S*)-1-[(*S*)-*N*-[(*S*)-1-carboxy-3-phenylpropyl]alanyl]hexahydro-2-indolinecarboxylic acid $C_{22}H_{30}N_2O_5$
troxolamidum troxolamide	3-[[2,3-dihydroxy-1-(hydroxymethyl)propyl]carbamoyl]-2,2,5,5-tetramethyl-1-pyrrolidinyloxy $C_{13}H_{25}N_2O_5$
umespironum umespirone	*N*-butyl-*N*′-[4-[4-(*o*-methoxyphenyl)-1-piperazinyl]butyl]-2,2-dimethyl-1,1,3,3-propanetetracarboxylic 1,3 : 1,3-diimide $C_{28}H_{40}N_4O_5$
vapiprostum vapiprost	(+)-(*Z*)-7-[(1*R*,2*R*,3*S*,5*S*)-3-hydroxy-5-[(*p*-phenylbenzyl)oxy]-2-piperidinocyclopentyl]-4-heptenoic acid $C_{30}H_{39}NO_4$
venlafaxinum venlafaxine	(±)-1-[α-[(dimethylamino)methyl]-*p*-methoxybenzyl]cyclohexanol $C_{17}H_{27}NO_2$
vinmegallatum vinmegallate	17,18-didehydro-3α,16α-eburnamenine-14-methanol 3,4,5-trimethoxybenzoate (ester) $C_{30}H_{32}N_2O_5$
zardaverinum zardaverine	6-[4-(difluoromethoxy)-3-methoxyphenyl]-3(2*H*)-pyridazinone $C_{12}H_{10}F_2N_2O_3$
zilpaterolum zilpaterol	(±)-*trans*-4,5,6,7-tetrahydro-7-hydroxy-6-(isopropylamino)imidazo-[4,5,1-*jk*][1]benzazepin-2(1*H*)-one $C_{14}H_{19}N_3O_2$

AMENDMENTS TO PREVIOUS LISTS

WHO Chronicle Vol. 9, 1955

Recommended International Nonproprietary Names (Rec. INN): List 1

p. 185	*delete*	*insert*
	acidum aminoaceticum aminoacetic acid	glycinum glycine
p. 185	acidum glutamicum glutamic acid	*replace the chemical name by the following:* L-glutamic acid

WHO Chronicle Vol. 13, No. 12, 1959

Recommended International Nonproprietary Names (Rec. INN): List 3

p. 469	methioninum methionine	*replace the chemical name by the following:* L-methionine

Supplement to WHO Chronicle Vol. 20, No. 11, 1966

Recommended International Nonproprietary Names (Rec. INN): List 6

p. 431	quinbolonum quinbolone	*replace the chemical name by the following:* 17β-(1-cyclopenten-1-yloxy)androsta-1,4-dien-3-one

WHO Chronicle Vol. 26, No. 10, 1972

Recommended International Nonproprietary Names (Rec. INN): List 12

p. 481	polidocanolum polidocanol	*delete the whole entry*

Supplement to WHO Chronicle Vol. 36, No. 6, 1982

Recommended International Nonproprietary Names (Rec. INN): List 22

p. 2	avilamycinum avilamycin	*replace the chemical name by the following:* consists mainly of avilamycin A *or* *O*-(1*R*)-4-*C*-acetyl-6-deoxy-2,3-*O*-methylene-D-galactopyranosylidene-(1→3-4)-2-*O*-(2-methyl-1-oxopropyl)-α-L-lyxopyranosyl *O*-2,6-dideoxy-4-*O*-(3,5-dichloro-4-hydroxy-2-methoxy-6-methylbenzoyl)-β-D-*arabino*-hexopyranosyl-(1→4)-*O*-2,6-dideoxy-D-*arabino*-hexopyranosylidene-(1→3-4)-*O*-2,6-dideoxy-3-*C*-methyl-β-D-*arabino*-hexopyranosyl-(1→3)-*O*-6-deoxy-4-*O*-methyl-β-D-galactopyranosyl-(1→4)-2,6-di-*O*-methyl-β-D-mannopyranoside

p. 2 *delete*

cadexomerum iodum cadexomer iodine	product of reaction of dextrin with epichlorohydrin coupled with ion-exchange groups and iodine

insert

cadexomerum cadexomer	carboxymethylated microspheres produced by reaction of partially hydrolysed starch with epichlorhydrin; slowly degradable by amylase (with a half-life of more than 120 minutes) Each cadexomer name is followed by a number referring to the mean diameter in µm of the microspheres: e.g *cadexomer 110, 200* The method of determining this parameter is approved by the competent national authority.

Supplement to WHO Chronicle Vol. 37, No. 6, 1983

Recommended International Nonproprietary Names (Rec. INN): List 23

p. 3

delete	*insert*
cholini glycerophosphas choline glycerophosphate	cholini alfosceras choline alfoscerate

Supplement to WHO Chronicle Vol. 38, No. 6, 1984

Recommended International Nonproprietary Names (Rec. INN): List 24

p. 2 aprotininum
aprotinin

replace the chemical name and the molecular formula by the following:

Arg-Pro-Asp-Phe-HCys-Leu-Glu-Pro-Pro-Tyr-Thr-Gly-Pro-HCys-Lys-Ala-Arg-Ile-Ile-Arg-Tyr-Phe-Tyr-Asn-Ala-Lys-Ala-Gly-Leu-HCys-Gln-Thr-Phe-Val-Tyr-Gly-Gly-HCys-Arg-Ala-Lys-Arg-Asn-Asn-Phe-Lys-Ser-Ala-Glu-Asn-HCys-Met-Arg-Thr-HCys-Gly-Gly-Ala cyclic (5→55), (14→38), (30→51)-tris(disulfide)
$C_{284}H_{432}N_{84}O_{79}S_7$

p. 4 eldexomerum
eldexomer

replace the definition by the following:

microspheres produced by reaction of partially hydrolysed starch with epichlorhydrin, slowly degradable by amylase (with a half-life of more than 120 minutes)
Each eldexomer name is followed by a number referring to the mean diameter in µm of the microspheres e.g. *eldexomer 60.* The method of determining this parameter is approved by the competent national authority.

p. 6 levocabastinum
levocabastine

replace the chemical name by:

(−)-(3*S*,4*R*)-1-(*cis*-4-cyano-4-(*p*-fluorophenyl)cyclohexyl]-3-methyl-4-phenylisonipecotic acid

Supplement to WHO Chronicle Vol. 39, No. 5, 1985

Recommended International Nonproprietary Names (Rec. INN): List 25

p. 10 pimelautidum
pimelautide

replace the chemical name by the following.

threo-6-carbamoyl-N^2-[*N*-(*N*-lauroyl-L-alanyl)-D-γ-glutamyl]-N^6-glycyl-DL-lysine

Supplement to WHO Chronicle Vol. 40, No. 6, 1986

Recommended International Nonproprietary Names (Rec. INN): List 26

p. 7 pirarubicinum
pirarubicin

replace the chemical name by the following:

(8*S*,10*S*)-10-[[3-amino-2,3,6-trideoxy-4-*O*-(2*R*-tetrahydro-2*H*-pyran-2-yl)-α-L-*lyxo*-hexopyranosyl]oxy]-8-glycoloyl-7,8,9,10-tetrahydro-6,8,11-trihydroxy-1-methoxy-5,12-naphthacenedione

WHO Drug Information Vol. 1, No. 4, 1987

Recommended International Nonproprietary Names (Rec. INN): List 27

p. 7	niguldipinum niguldipine	*replace the chemical name by the following:* (+)-(*S*)-3-(4,4-diphenylpiperidino)propyl methyl 1,4-dihydro-2,6-dimethyl-4-(*m*-nitrophenyl)-3,5-pyridinedicarboxylate

WHO Drug Information Vol. 2, No. 3, 1988

Recommended International Nonproprietary Names (Rec. INN): List 28

	delete	*insert*
p. 164	bendacololum bendacolol	bendacalolum bendacalol
p. 164	clipoxaminum clipoxamine	cliropaminum cliropamine
p. 166	pemedolacum pemedolac	*replace the chemical name by the following:* (±)-*cis*-4-benzyl-1-ethyl-1,3,4,9-tetrahydropyrano[3,4-*b*]indole-1-acetic acid