

International Nonproprietary Names (INN)
for biological and biotechnological substances
(a review)



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**World Health
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International Nonproprietary Names (INN) for biological and biotechnological substances

(a review)

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CONTENTS

0. INTRODUCTION.....	iv
1. PHARMACOLOGICAL CLASSIFICATION OF BIOLOGICAL AND BIOTECHNOLOGICAL SUBSTANCES.....	1
2. CURRENT STATUS OF EXISTING STEMS OR SYSTEMS FOR BIOLOGICAL AND BIOTECHNOLOGICAL SUBSTANCES	4
2.1. Groups with respective stems	4
2.2. Groups with respective pre-stems.....	5
2.3. Groups with INN schemes	5
2.4. Groups without respective stems / pre-stems and without INN schemes.....	5
3. GENERAL POLICIES FOR BIOLOGICAL AND BIOTECHNOLOGICAL SUBSTANCES	6
3.1. General policies for blood products.....	6
3.2. General policies for fusion proteins.....	6
3.3. General policies for gene therapy products	6
3.4. General policies for glycosylated compounds	7
3.5. General policies for immunoglobulins fractionated from plasma	8
3.6. General policies for monoclonal antibodies	8
3.7. General policies for non-glycosylated compounds.....	11
3.8. General policies for skin substitutes	11
3.9. General policies for transgenic products.....	11

3.10.	General policies for vaccines	11
3.11.	General policies for cell therapy products	12
4.	SUMMARY OF INN ASSIGNED TO BIOLOGICAL AND BIOTECHNOLOGICAL SUBSTANCES	13
4.1.	Antimicrobial, bactericidal permeability increasing polypeptides	13
4.2.	Antisense oligonucleotides	13
4.3.	Antithrombins	13
4.4.	Blood coagulation cascade inhibitors	14
4.5.	Blood coagulation factors	14
4.6.	Colony stimulating factors	15
4.7.	Enzymes	16
4.8.	Erythropoietin type blood factors	19
4.9.	Gene therapy products	19
4.10.	Growth factors	20
4.11.	Growth hormone (GH) derivatives	21
4.12.	Growth hormone antagonists	22
4.13.	Heparin derivatives including low molecular mass heparins	22
4.14.	Hirudin derivatives.....	22
4.15.	Pituitary hormone-release inhibiting peptides	22
4.16.	Insulins	23
4.17.	Interferons	24
4.18.	Interleukin receptor antagonists	24
4.19.	Interleukin type substances	25

4.20.	Monoclonal antibodies.....	26
4.21.	Oxytocin derivatives	29
4.22.	Peptides and glycopeptides (for special groups of peptides see <i>-actide, -pressin, -relin, -tocin</i>).....	29
4.23.	Peptide vaccines / recombinant vaccines	31
4.24.	Pituitary / placental glycoprotein hormones	32
4.25.	Pituitary hormone-release stimulating peptides.....	33
4.26.	Receptor molecules, native or modified	33
4.27.	Synthetic polypeptides with a corticotropin-like action	34
4.28.	Thrombomodulins.....	34
4.29.	Toxins	35
4.30.	Vasoconstrictors, vasopressin derivatives	35
4.31.	Various.....	35
5.	CURRENT CHALLENGES	41
	REFERENCES	42
	ANNEX 1.....	44
	The list of INN for composite proteins published	44
	ANNEX 2.....	53
	Transliteration of Greek letters in English, French and Spanish	53
	ANNEX 3.....	54
	The previous naming scheme for monoclonal antibodies.....	54

0. INTRODUCTION

More than 50 years ago, WHO established the International Nonproprietary Name (INN) Expert Group / WHO Expert Committee on Specifications for Pharmaceutical Preparations, to assign nonproprietary names to medicinal substances, so that each substance would be recognized globally by a unique name. These INNs do not give proprietary rights, unlike a trade mark, and can be used freely as they are public property.

INNs have been assigned to biological products since the early days of the INN Programme. As well as many names for individual substances, animal insulin preparations were given an INN in Recommended list 3 in 1959. In the period up to 1980, names were assigned to antibiotics, synthetic peptides, hormones and other proteins. In names of compounds related by structure and / or function, specific letter groups, called stems, are included to aid recognition by health professionals. The *-actide* for synthetic polypeptides with a corticotrophin-like action is an example.

In 1982, the name *insulin human* was proposed for the recombinant protein identical to natural human insulin, and since then names have been assigned to a growing number of recombinant products. Within the INN Programme, names have not been assigned to natural human blood products or vaccines. For those groups of biological products, the WHO Expert Committee on Biological Standardization (ECBS) has been adopting the scientific names of the biological products within the definitions of respective requirements.

Since the time when *insulin human* became the first recommended INN (rINN) for a recombinant product, the range of biological / biotechnological products has increased in size and complexity. For example, new stems have been introduced for tissue plasminogen activators (*-plase*) among other groups. Analogues of recombinant glycosylated proteins produced in different cell systems have been classified using Greek letters as indicators in the sequence of product introduction: erythropoietin (*epoetin alfa, beta* and so on) and glycoprotein hormones (*follitropin*) are examples. In the 1990s, a systematic scheme for naming monoclonal antibodies was implemented based on the

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