

SPECIAL ARTICLE**Nomenclature for Secreted Regulatory Proteins of the Immune System
(interleukins)***

By The WHO-IUIS Nomenclature Subcommittee on Interleukin Designation†

THE RECOMMENDED procedures and criteria for interleukin designations are described. The officially adopted designations are, in sequence, from interleukin-1 to interleukin-10, including interleukin-1 α and interleukin-1 β .

CRITERIA FOR DESIGNATIONS

The following procedures are recommended by a Subcommittee of the Nomenclature Committee of the International Union of Immunological Societies (IUIS) for the naming of new secreted regulatory proteins of the immune system (i.e., lymphokines, cytokines, interleukins). If the discoverers of such a molecule wish to utilize an interleukin designation (i.e., interleukin-n), they are urged not to do so unilaterally but to apply to the newly established Standing Committee on Interleukin Designation of IUIS for approval.‡ The granting of such an interleukin designation would depend on whether the following criteria have been met:

(1) The molecule shall have been purified, molecularly cloned and expressed. Its nucleotide and inferred amino acid sequence should be distinct from any currently known interleukin or indeed from any other already described molecule. The availability of monoclonal antibodies that may neutralize its function would be desirable but not absolutely required, as would information regarding the chromosomal location of the gene encoding the molecule.

(2) The molecule shall have been shown to be a natural product of cells of the immune system, to mediate a potentially important function in immune responses, and preferably also to have more than a single function so that a simple functional name might not be adequate. It is preferred if it could be shown that the predominant actions of the molecule were to mediate functions in the immune system, but it is recognized that this may be difficult to establish. The terms "immune system" and "immune responses" shall be defined very broadly to include leukocytes other than lymphocytes and monocytes as important participants.

(3) If the molecule is a member of an already characterized family of molecules that have their major functions outside the immune system, it would be preferable in most circumstances to use a designation consistent with the naming of other members of the family rather than adopting an interleukin designation.

(4) The Subcommittee in no way wishes to discourage the use of descriptive names for new lymphokines and cytokines. Indeed, it generally recommends that interleukin designations only be sought when the discoverers or other major participants in the field have a compelling reason for seeking such a name. Well-chosen descriptive or functional names may have mnemonic value that an interleukin designation is likely to lack.

Based on the proposed requirements for the award of an interleukin designation, it is very unlikely that such a designation could be granted prior to the initial publication describing a new factor. Thus, even if the authors wish that an interleukin designation be awarded, they are urged to choose some provisional name. If they wish, they may indicate in their publications that they intend to apply for an interleukin designation, without specifying what that designation may be.

In a situation in which more than a single research group was involved in the discovery of the molecule or in some very important aspects of the characterization of the molecule, it is desirable that agreement be obtained from

**This article was drafted by a group of experts working under the auspices of the International Union of Immunological Societies (IUIS) and has been approved by the Nomenclature Committee of IUIS.*

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Originally published in Bulletin of the World Health Organization 69:483-484, 1991.

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0006-4971/92/7907-0039\$3.00/0

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all the major contributors prior to the application for an interleukin designation. If an interleukin designation is sought for a molecule that has been studied by several groups for an extended period of time, it is likely that the Standing Committee will recommend that some type of consensus on the part of all concerned be obtained prior to application for an interleukin designation.

The Standing Committee may wish to obtain expert advice regarding the suitability of awarding an interleukin designation to a particular molecule. Accordingly, supporting material regarding the characterization of the potential interleukin must be in the public domain and, preferably, should have been published in refereed journals.

DESIGNATIONS

A list of official interleukin designations will be sent to journals that regularly publish papers in this field. The editors will be asked to request their authors not to use non-official interleukin designations. Indeed, once this

mechanism is in place, the immunological community is strongly urged not to unilaterally adopt interleukin designations in order to avoid the confusion that may occur when several molecules are given the same designation or when molecules whose principal functions lie outside the immune system receive an interleukin designation.

Currently accepted interleukin designations officially adopted by the IUIS Nomenclature Committee are listed below:

Interleukin-1 α ; Interleukin-1 β
Interleukin-2
Interleukin-3
Interleukin-4
Interleukin-5
Interleukin-6
Interleukin-7
Interleukin-8
Interleukin-9
Interleukin-10.