

Micro-organisms



European Patent Office (EPO) decision [T 356/93](#) defines the term “micro-organism” to encompass “plasmids, viruses and all generally unicellular organisms with dimensions beneath the limits of vision which can be propagated and manipulated in a laboratory”, and includes bacteria, yeasts, fungi, algae, protozoa and human, animal and plant cells.

To be patentable in the EPO, inventions involving micro-organisms must be novel, inventive and have industrial application. EP patents can be obtained for micro-organisms themselves, for their production or isolation, for products produced by micro-organisms, and for processes involving the micro-organisms. [Art. 53\(c\) EPC](#) specifically states that microbiological processes or the products thereof are patentable. EPO decision [T 356/93](#) clarified that products made or modified by micro-organisms are patentable as well as new micro-organisms as such.

Novel micro-organisms may be obtained by selective culturing, cross-breeding, artificial mutation and genetic recombination. The discovery of a previously unknown micro-organism freely occurring in nature would not be regarded as novel. However, if the micro-organism was isolated from its natural environment or produced by means of a technical process it may be novel.

A patent relating to a micro-organism must provide sufficient information to enable a skilled person to put the invention into practice. The patent should provide as many details as possible about the micro-organism, for example: a taxonomic description; morphological characteristics, such as shape, size, stainability and motility; colony characteristics; metabolic characteristics; and genetic characterisation of any known, relevant genes. The source of the organism and required nutrient and culture conditions should also be disclosed.

Detailed information is also needed when it is wished to claim a product produced by a micro-organism such as an antibiotic or enzyme. Such products are often characterised by their chemical structure. If these are not known, the products could be defined by the micro-organism that produces them and/or by physical or chemical characteristics that are known and sufficient to distinguish them from other known compounds. Such information may include UV or IR absorption spectra, NMR spectra, elemental analysis, molecular weight, melting point, solubility characteristics and HPLC analysis.

To ensure that sufficient information is given, a deposit of the micro-organism will often be filed with a certified depository institution. The depository institution, date of deposit and accession number of the deposited material should be stated in the patent application. Nucleotide or amino acid sequences may be defined by sequence listings. For more information on biological deposits and sequence listings see our AL Factsheets [Biological deposits](#) and [Sequence listings](#).

We have explained the general principles of protecting inventions related to micro-organisms in this AL Factsheet but it is only an introduction, and any live situation will need individual assessment. Please contact us if you need more detailed information.