

Preface

The Europäische Akademie deals with the scientific study of the consequences of scientific and technological advances for individuals and society, as well as for the natural environment with the lifesciences being an important focus of its work.

The application of bio- and genetechonology for medical purposes has been a hot spot of research in the lifesciences for several decades. One major field is the development and production of biopharmaceuticals, with therapeutic hormones and antibodies as prominent examples. They are pharmaceutical proteins that have to be isolated from biological material or be produced by genetically modified organisms. Besides the use of fermenter grown recombinant cell cultures for their production, it is now also possible to use higher organisms (plants and animals) for this purpose. This new application of genetechonology – called “pharming” – seems to be a promising strategy to produce a broad variety of biopharmaceuticals in large quantities at comparatively low costs. It attracted special attention due to its potential for profitable investments by the pharmaceutical industry.

However, taking into account the generally cautious attitudes of at least the European public towards gene- and biotechnology it is obvious that pharming should undergo a thorough evaluation of its ethical, legal, and social aspects and implications. For this task the Europäische Akademie set up an interdisciplinary and international project group that produced the report at hand. Besides it should be noted that the group consisted of senior and junior scientists contributing to the joint project on an absolutely equal footing. This show that intergenerational scientific collaboration can well transcend the often denounced state of dependence of younger scientists – given an adequate institutional framework is provided.

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Pharming

Promises and risks of Biopharmaceuticals derived from
genetically modified plants and animals

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