

THE FOURTH INTERNATIONAL CONFERENCE ON BIOTECHNOLOGY
“BIOTECHNOLOGY AND IMMUNO-MODULATORY DRUGS”
Zagreb, February 20-23, 2005, CROATIA

In the dawn of the third millennium, opposing pessimistic and optimistic visions of human evolution are being put forward and so are conflicting views of the promises of immuno-modulation, but, living at the beginning of the 21st century, we face the realistic prospect of living healthier and longer lives than previous generations. This is the result of the rapid advances in basic sciences and technologies, which translate into a sustained development of novel diagnostics to identify cause of diseases, monitor therapy efficacy and safety in patients as well as novel therapeutic principles.

In spite of the immense leap forward taken during the last century, it seems that this will be just a small step in comparison to the achievements likely to occur by the end of this century. It has been only 50 years since the basic structure of the DNA was discovered; yet today we are starting to manipulate this structure to cure diseases. Global genomic initiatives, translating genotype into phenotype, understanding complex regulatory networks by help of computer models and general trends towards miniaturization, have set a stage for a new century of living improved by help of biotechnology. Currently, several hundred biotechnological agents are being tested for more than 200 diseases. These are mainly proteins and other substances that originate from the human body. Three distinct generations of protein drugs can already be distinguished: naturally-occurring proteins and antibodies, fusion proteins and a new generation of modified proteins with improved biological properties either antagonizing or agonizing their natural precursors. Immuno-modulatory drugs are the pioneer examples of modern biotechnology. Everything started with production of various cytokines (TNF- α , IL-1, IL-2, IFN- β , IFN- γ) and growth factors (erythropoietin, G-CSF, GM-CSF, etc), and was followed by a number of therapeutic monoclonal antibodies (anti-TNF- α , anti-CD80/86, anti-IgE, etc.) The later group has undergone major evolution from mouse anti-human antibodies, chimerical antibodies and humanized antibodies, to fully human antibodies, thus minimizing the risk of a neutralizing or allergic host response. Significant progress made in biological sciences and biotechnology has provided novel therapeutic treatment options for thousands of patients, which were not adequately treated by

small synthetic molecules and made some of these biotechnological products billion-dollar-selling drugs. Huge number of products currently in drug development suggests that this is just the beginning and may lead to a patient-tailored medicine. Exploration of new boundaries—outer space and some parts of the Earth and its oceans—will, no doubt, lead to the discovery of new organisms and potential new pathogens. However, the new possibilities for controlling infectious diseases are emerging, as illustrated by the renewal of interest in antibody-based therapies, new anti-infectives, the potential anti-infective activity of non-antibiotics, and the use of probiotics. Our knowledge of antibiotic-host interactions is very limited despite a vast amount of published data. The techniques, models, even fundamental knowledge required to approach this problem remain to be acquired. When these hurdles are overcome, we are sure that what now seem to be miracle drugs endowed with dual antibiotic and immuno-modulatory activities will be developed for specific key pathologic processes, patients, and microorganisms. Powerful new techniques will help us to unravel the workings of the immune system, together with its interactions with the environment, cell-cell communication, and intracellular language, resulting in the identification of more precise therapeutic targets.

The scope of meeting is to cover recent discovery and developments in this exciting field of biotechnology.

Zagreb, as the traditional location of these Conferences, is the capital of the Republic of Croatia, an old Central European city with 900 years of documented history. With more than 335 years old University, over 135 years old Croatian Academy of Sciences and Arts, 48 years old study of biotechnology, 40 years old Croatian Academy of medical Sciences and 12 years old Croatian Academy of Engineering, Zagreb has preserved the historical, natural and cultural heritage also in its environs.

For all further information, registration, hotel reservation and abstract submission please communicate with us only through <http://www.hdb.hr/biotechnology4.html>

