第一届

免疫疾病与治疗大会

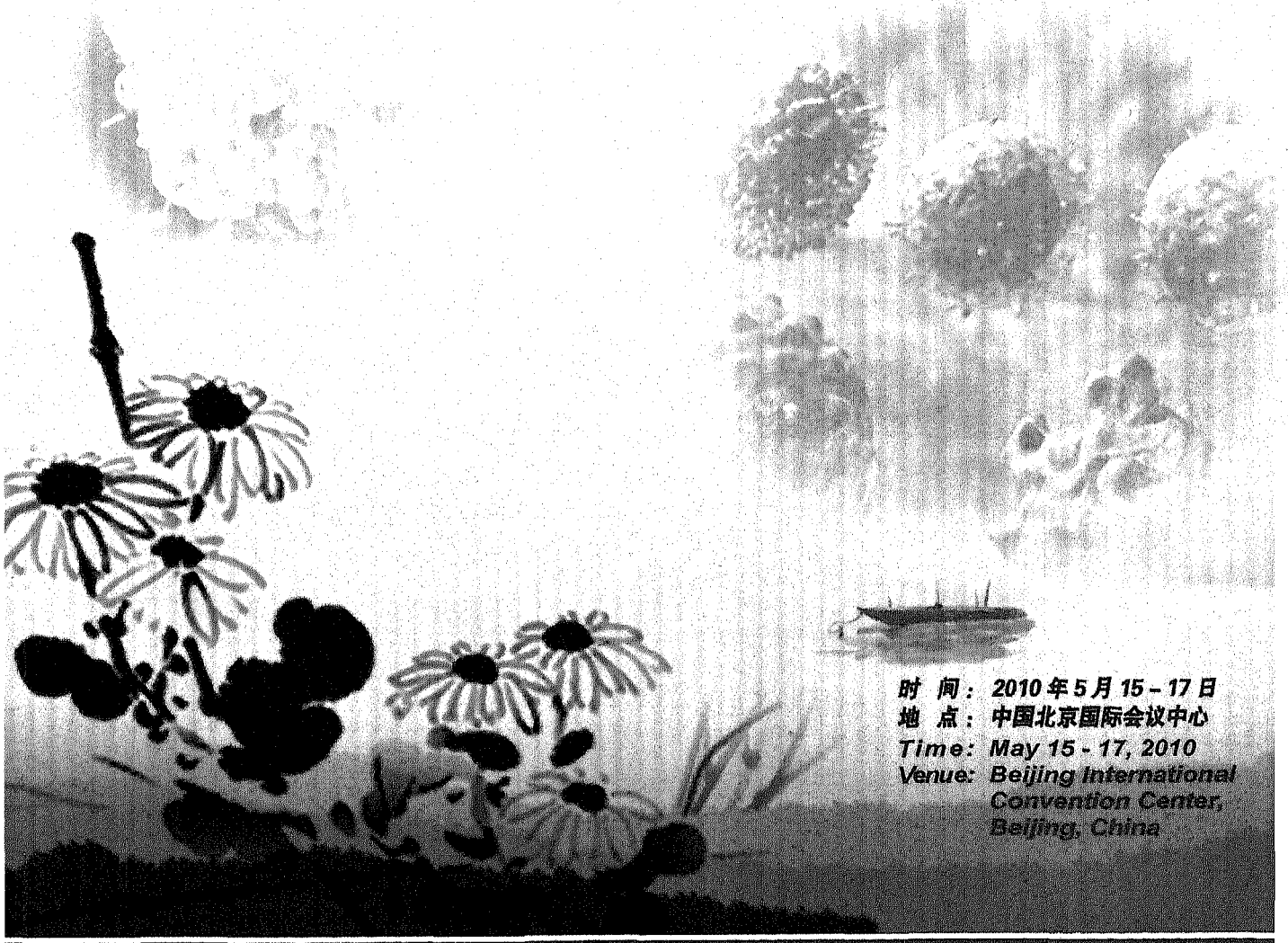
WCIT-2010

BIT's 1st Annual World Congress of

Immunodiseases & Therapy

主 题：促进健康　提升活力

Theme: Boosting Health and Vitality



时　间：2010年5月15－17日
地　点：中国北京国际会议中心
Time: May 15 - 17, 2010
Venue: Beijing International Convention Center, Beijing, China

www.bitlifesciences.com/wcit2010

BIT's 2nd Annual World Congress of

Immunodiseases and Therapy (WCIT) 2011

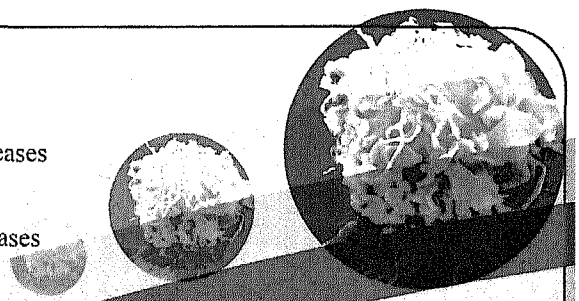
Time: November, 2011 Venue: HangZhou, China

Conference Highlights

At the Conclusion of this Conference, Participants Should be able to Meet the Following Objectives:

- A Comprehensive Overview of the Immune System and Disorders
- An Update on Recent Clinical Developments in the field of Medical Immunology
- A Review of the Latest Pharmacological Therapies for Immune-mediated Diseases
- A Review of the Latest Strategies for Management of Clinical Immunology
- A Greater Understanding of the Long-term Complications of Autoimmune and Immunodeficiency Disorders
- An Opportunity to Share and Exchange Ideas with Leading Practitioners in the Field

WCIT-2011 will cover the following topics:



- Track 1: Basic Research of Immunology
- Track 2: Novel Technologies & Medical Devices for Immunodiseases
- Track 3: Medical Research and Immune Diseases
- Track 4: Drug Discovery & Development of Major Immune Diseases
- Track 5: The Immune Pipeline: A Strategic Review
- Track 6: Diagnostics, Therapeutics and Clinical Management of Immune Diseases

Presentation Style

All accepted abstracts will be presented as oral presentations or poster presentations. Presentations will be evaluated and notified accordingly by the Program Committee.

Contact Us

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Call for Abstracts

We look forward to your abstract submission!

Please register your abstract online at

http://www.bitlifesciences.com/WCIT2011

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Title: Role of Idiotype-anti-idiotype Interactions in the Induction of Collagen-induced Arthritis in Rats

Dr. Liubov Beduleva
Professor
Udmurt State University
Russia

Abstract

The mechanism of autoantibodies (rheumatoid factor (RF) and anti-collagen autoantibodies) induction in collagen-induced arthritis (CIA) is unknown. The study assessed the hypothesis that activation of autoantibody-producing clones is mediated by idiotype-anti-idiotype (IAI) interactions with lymphocytes on heterologous collagen. It was demonstrated that RF-containing serum of rats immunized with bovine collagen (BCII) in ELISA competes with BCII for binding to anti-BCII antibodies. Immunization of rats with Fc fragments of IgG caused not only an increase in RF levels, but also induction of antibodies to BCII and anti-collagen autoantibodies. Taken together, these facts suggest that activation of RF-producing lymphocytes in CIA model occurs through IAI interactions with anti-BCII lymphocytes. Three populations of antibodies were detected in the blood of arthritic rats: antibodies reacting only with BCII, antibodies reacting only with RCII and antibodies that can bind to both bovine and rat collagen. It was shown that RF in relation to anti-collagen autoantibodies act as anti-idiotypic antibodies, and a comparative analysis of antibody production in arthritic and resistant rats demonstrated that the level of anti-collagen autoantibody production depends on the level of RF production. This suggests that RF and RF-producing lymphocytes are involved in regulation of anti-collagen autoreactive lymphocyte activity through an IAI interaction mechanism. A direct activation of autoreactive anti-collagen lymphocytes by BCII cannot be excluded, but it can be supposed that induction of anti-collagen autoreactive lymphocytes needs a signal generated in IAI interactions by RF-producing lymphocytes. This hypothesis is based on the data obtained, and not only explains the mechanism of autoreactive lymphocytes activation in the rat CIA model, but also indicates that the key regulatory element in the development of arthritis in animals is RF-producing lymphocytes. The results allow a new insight on the role of RF in the pathogenesis of rheumatoid arthritis and on seeking more effective therapeutic means.

Biography

Upon completion of her education at the faculty of Biology and Chemistry at the Udmurt State University in 1998 Dr. Beduleva began research and teaching practice at the department of Immunology and Cell Biology, the faculty of Medical Biotechnology. In 2005 she got Candidate of Science degree in Biochemistry (the Russian equivalent of Ph. D.). Since 2003 she has been investigating idiotypic mechanism immunoregulation, idiotypic induction and regulation of autoimmune responses. In 2009 she got Doctor of Science degree in Allergology and Immunology (second Russian doctoral degree) for the research of idiotypic mechanism of induction and development of autoimmune response. She has revealed the mechanism induction of autoimmunity using experimental model of rheumatoid arthritis (Beduleva at al, 2009), autoimmune hemolytic anemia (Menshikov at al, 2008). The potential targets for therapy of rheumatoid arthritis were defined as a result of the research mentioned above. It is expected that this work will lead to development of novel vaccine for rheumatoid arthritis treatment.