Project no.
005094 (LSHB-CT-2004)

Project acronym
CELLAID

Project title
Curative cell therapies for autoimmune diseases

Instrument:	Specific Support Action (SSA)
Thematic Priority:	Life Sciences, genomics and biotechnology for health (LifeSciHealth)

Title of report

CELLAID Final Report

Period covered:	Jan 1st 2005 – June 30st 2007
Date of preparation:	Oktober 2007
Start date of project:	Jan 1st 2005
Duration:	30 months (incl. 6 months cost neutral extension)
Coordinator:	Prof. A. Radbruch German Rheumatism Research Centre Charitéplatz 1 (formerly Schumannstr. 21/22)) D - 10117Berlin Germany

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1. Publishable final activity report

1.1. Project execution

Objectives in summary:

CELLAID is the acronym for **CELL**-based therapies in **A**uto**I**mmune **D**iseases. New therapies to treat autoimmune diseases have been developed in recent years. Treatment options target molecules involved in the pathogenesis of chronic inflammatory diseases, leading to suppression of immune reactions but not to cure. Hence, the challenge is to accelerate the development of concepts of curative specific therapies and to translate them into clinical application.

The main CELLAID objectives were (i) arrangement of European symposia on cell-based therapies for autoimmune diseases, (ii) creation of an integrative communication platform for European expertise, (iii) fostering networks between European research institutes to enhance standardisation of clinical interventions and quality assessment, (iv) evaluation of the European potential and perspectives, and (v) influence on political processes to improve the awareness and priority of rheumatic diseases within the EU.

The project was coordinated by Prof. A. Radbruch, Director of the German Rheumatism Research Centre in Berlin.

CELLAID member states

Coordinator contact details:

Prof. A. Radbruch
German Rheumatism Research Centre
Charitéplatz 1 (formerly Schumannstr. 21/22)
D - 10117 Berlin
Germany

Summary of the work performed:

Three symposia on cell-based therapies for autoimmune diseases were set up to examine cell therapy approaches for treatment of auto immune diseases. The sessions covered epidemiology, basic, and translational science as well as patient expectations. Discussions of research data lead to development of new therapeutic strategies and innovative concepts towards clinical applications. By providing a communication platform, a network of leading European research institutions was established. The CELLAID initiative published recommendations to improve the awareness and priority of rheumatic diseases within the EU and to define and suggest research priorities for the seventh framework programme.

Achievements to state-of-the-art:

The CELLAID symposia lead to efficient exchange of knowledge and recent research results, focusing on the state-of-the-art, potentials, clinical demands, and innovative technologies. Promising new therapeutic strategies are depletion of auto-reactive memory (long-lived) plasma cells and T cells, re-establishment of tolerance by regulatory T cells, manipulation of innate immune responses, and use of mesenchymal stem cells, respectively. A pan-European research effort with the aim to develop and validate specific intervention strategies for auto immune diseases, to understand the molecular and cellular basis of these therapeutic interventions, and to translate this knowledge towards the development of preventive and curative clinical applications, is needed.

The CELLAID initiative composed two position papers about the 'European potential and demands for cell therapies in autoimmune diseases' with the aim to create a pan-European research effort within the seventh framework programme. A large scale research project should be the next step to explore and profit from the excellence of partners combined within CELLAID. The CELLAID network is ready to collaborate with highly established industrial and regulatory bodies, with basic researchers and clinicians as well as with the two major European Societies in the field: EBMT and EULAR.

To cover the aspects of stem cell transplantation, the CELLAID coordinator cooperate with EBMT (European Bone Marrow transplant group) in future Biobanking initiatives with the aim of extensive analysis and monitoring of immune reconstitution.

The CELLAID initiative contributed to the decision of the EU Parliament and Council to approve rheumatoid diseases as major challenge (publication: COM 364, 28 June 2006) and to make the development of patient-oriented strategies, with particular emphasis on treatment and clinical research, to one of its activities of the health sector. Many specific topics of the Health Priority Cooperation Programme of the seventh framework programme include rheumatic and/or autoimmune pathologies.

To facilitate sustainability of the CELLAID network, initiative, and momentum, the chairman and coordinator Andreas Radbruch initiated the integration of the CELLAID Initiative as a working party of the EULAR standing committee for investigative rheumatology (ESCIR).

Impact on industry and research:
Substantial funding for joint research and clinical trials is essential to transfer innovation and knowledge into an effective therapy to cure autoimmune diseases.

Website and logo:
Objectives and achievements of the CELLAID project, the programme and abstracts of the three symposia, and the session summaries can be found on the CELLAID homepage: http://www.cellaid-eu.org/.

1.2. Dissemination and use

One of the most important research objectives of the 21st century is the development of curative therapies for autoimmune diseases. Autoimmune diseases are major causes of morbidity and mortality throughout the European Union (EU), affecting 5-7% of the population. Current treatment options are based on immune suppression and do not provide cure.

The EU financially supported the initiation of the CELLAID project - a multidisciplinary European network of experts performing three symposia aiming at the evaluation of the potentials and perspectives of **cell based therapies in autoimmune diseases.** CELLAID focused on state-of-the-art, research and clinical demands, and innovative technologies within the field. CELLAID defined and suggested research demands relevant for the priorities of the Seventh Framework Programme and improved the awareness of rheumatoid diseases as a major challenge for European research and health care. CELLAID established a pan-European and multidisciplinary network of experts from research, clinics, and industry to foster interaction and innovation in the field. The three CELLAID symposia focused on cellular concepts of immune therapies for autoimmune diseases and their translation into clinical applications.

Resetting the immune system by complete immune ablation and subsequent autologous haematopoietic stem cell transplantation has provided the proof of principle – autoimmune

diseases can be cured. Hence, the most advanced concept for innovative therapy is to specifically eliminate or modulate the cells that are relevant in autoimmune pathogenesis. Promising strategies are depletion of auto-reactive memory (long-lived) plasma cells and T cells, re-establishment of tolerance by regulatory T cells, manipulation of innate immune responses, and use of mesenchymal stem cells, respectively.

The programme, abstracts, and summaries of the three symposia are available on the CELLAID website http://www.cellaid-eu.org/.

The CELLAID perspective is to perform pan-European studies and trials. The applicability and success of therapeutic concepts will depend on pan-European research, studies, trials, networking, and substantial funding. The CELLAID initiative continues as a working group for cell therapies of the EULAR standing committee for investigative rheumatology (ESCIR). The 4th Symposium is planed to take place in November 2007 in Berlin and is currently being organised by the coordinator and the scientific advisory board. Close collaboration is envisaged between CELLAID and the organization of the European Workshop for Rheumatology research (EWRR) and the European Bone Marrow Transplant Group (EBMT).

2. Final plan for using and disseminating the knowledge (PUDK)

This does not really apply since the coordination of the symposia does not generate exploitable scientific results. Only published results were presented and discussed.

The abstracts and summaries are posted on the website: www.cellaid-eu.org, which is open to the public. The website was announced and publicised in the course of the announcement of the first symposium on major European platforms for rheumatology (EULAR), transplantation (EMBT), immunology (EFIS, ENII) and some national platforms, e.g. Competence Network Rheumatology (*Kompetenznetz Rheuma*, KNR). The German KNR internet site and newsletter regularly announced an update of the status of the CELLAID project (see also dissemination of knowledge, ANNEX VII).

A statement on the European potential and perspectives of cell based therapies for autoimmune diseases was integrated into the Science policy briefing of the European Science Foundation (ANNEX VIII). This statement was reviewed by the European Medical Research Council (EMRC) and EULAR and also launched and distributed at the annual EULAR meeting in Amsterdam, June 2006.

1.2.1. Exploitable knowledge and its use

The CELLAID Internet site provides an overview of the project's objectives and achievements. The programme, abstracts, and summaries of the three symposia are visible to every visitor.

1.2.2. Dissemination of knowledge

CELLAID news are mainly disseminated though the projects own webpage www.cellaid-eu.org, which has been introduced to the scientific community through various related websites, at conferences, etc. (see dissemination overview table in dissemination of knowledge, ANNEX VII).

1.2.3. Publishable results

ANNEX I: Programme including abstracts of the three European Symposia
ANNEX II: Summaries of the sessions of the three European Symposia
ANNEX III: CELLAID position papers, 2006 and 2007
ANNEX VIII: ESF Science Policy briefing: Rheumatic Diseases – a major Challenge for European Research and Health Care, June 2006

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2.1. Justification of major cost items and resources

Please find enclosed the financial summary, covering the costs incurred during all preceding periods (ANNEX IV). Major cost items during the reporting periods and for the European CELLAID Symposia were the costs for travel reimbursements, the fee charged for the symposium's location, and for the congress agency. In total, the meeting costs were about 89.000 €.

The personal costs (72.000 €) are the second major expense. The coordinators were responsible for organisation, promotion, initiation of contacts, internet presentation, scientific communication with the participants before and after the meetings, and scientific coordination.

The final direct and indirect costs of 188.228,14 € represent the costs of the entire reporting period.

2.2. Form C Financial statement per activity for the contractual reporting period

Please find the financial summary and Form C in ANNEX IV and V, respectively .

2.2 Summary financial report

In summary, the financial situation corresponds to the outline of Form A3.1 of Annex I of the CELLAID contract, second amendment. The major costs and accounting balance are stated in Form C of this report. An Audit certificate, covering the costs incurred during all preceding periods, is enclosed (ANNEX VI).

3. Final report on the distribution of the Community's contribution

Funds were not distributed to third parties since the only participant is the contractor and the financial report given above does contain all sums of income and outcome.

4. Interim questionnaires

The interim questionnaire will be discussed with the scientific officer Dr. Jürgen Sautter upon delivery of this report.

5. Supplementary reports

ANNEX I: Programme including abstracts of the three European Symposia
ANNEX II: Summaries of the sessions of the three European Symposia
ANNEX III: CELLAID position papers 2006 and 2007
ANNEX IV: Financial Summary
ANNEX V: Form C
ANNEX VI: Audit Certificate
ANNEX VII: PUDK
ANNEX VIII: Science policy briefing