



COVALIS BIOSCIENCES AG

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COMPANY PROFILE

- ⇒ Covalys focus are proprietary technologies for protein labeling, protein immobilization and protein purification
- ⇒ Initial work is focused on the SNAP-tag, a protein tag that covalently binds a wide range of fluorescent and affinity labels
- ⇒ Covalys holds patent applications and exclusive licenses for a range of protein labeling technologies (in cells and in vitro), as well as protein purification technology



FIRST CHOICE TOPIC FOR 4th CALL (1)

LIFE SCIENCES, GENOMICS AND BIOTECHNOLOGY FOR HEALTH

Gene expression and proteomics

⇒ LSH-2005-1.1.1-1: A systems approach to understanding the regulation of gene transcription

INTEGRATED PROJECT

Objectives:

to enable researchers to better decipher the functions of genes and gene products as well as to define the complex regulatory networks that control fundamental biological processes.

Interest by Covalys:

Covalys is interested to provide, to apply, and to extend its protein labeling technologies for the systematic study of gene transcription regulation. Activities in simple eukaryotes (yeast) or in more complex organisms are of interest. One important application would be the use of intracellular FRET assays based on Covalys labeling technology



FIRST CHOICE TOPIC FOR 4th CALL (2)

LIFE SCIENCES, GENOMICS AND BIOTECHNOLOGY FOR HEALTH

Structural genomics

⇒ LSH-2005-1.1.2-1: Structural genomics interdisciplinary initiative
INTEGRATED PROJECT

Objectives:

to enable researchers to determine, more effectively and at a higher rate than is currently feasible, the 3-D structure of proteins and other macromolecules which is important for elucidating protein function and is essential for drug design.

Interest by Covalys:

One important requirement for 2D and 3D crystallization of proteins is the straightforward and simple purification of proteins. Covalys is working on tags and as well on efficient and selective chemical technologies to protein-remove a protein from a surface. Both techniques can be used to optimize the availability of proteins for subsequent crystallization.



FIRST CHOICE TOPIC FOR 4th CALL (3) LIFE SCIENCES, GENOMICS AND BIOTECHNOLOGY FOR HEALTH

Multidisciplinary functional genomics approaches to basic biological processes

⇒ LSH-2005-1.1.0-3: Proposals concerned with the development of tools and technologies for functional genomics (proteomics, gene expression, structural genomics, comparative genomics, population genetics, bioinformatics etc) will be eligible. Furthermore, research focusing on multidisciplinary fundamental genomics approaches to study basic biological processes will be considered

STREP dedicated to SMEs

Objectives:

to enable researchers to study fundamental biological processes by integrating the above innovative approaches.

Interest by Covalys:

Covalys technology allows to study the fate of a target protein in vitro, in cells, or even inside small living animals. One important potential is to establish protein interaction assays inside cells, even for medium or weak interactions. Covalys would be interested to participate in a **project of Covalys' specific targeting the intracellular study of protein interactions making use of Covalys' specific protein tagging technology.**



FIRST CHOICE TOPIC FOR 4th CALL (3) LIFE SCIENCES, GENOMICS AND BIOTECHNOLOGY FOR HEALTH

Development of new diagnostics

⇒ LSH-2005-1.2.2-3: Nanoparticles-based diagnostics

STREP

Objectives:

New diagnostic tests and development of new tools and non-invasive methods for early diagnosis, monitoring of disease progression and interpretation of in-vivo data so as to increase the possibilities and effectiveness of the existing therapies.

Interest by Covalys:

Covalys technology allows the effective and biocompatible immobilization of proteins to modified surfaces, e.g. to nanoparticles. Covalys would be **interested to participate in a project on nanoparticle based diagnostics, making use of its proprietary immobilization technology**. Covalys would be glad to contribute its technology and to develop the technology further for improved yields, reduced non-specific binding, etc.



FIRST CHOICE TOPIC FOR 4th CALL (3)

LIFE SCIENCES, GENOMICS AND BIOTECHNOLOGY FOR HEALTH

Studying the brain and combating diseases of the nervous system

⇒ **LSH-2005-2.1.3-1:** Neuroimaging: “Bridging genetics and neural function
Integrated Project

Objectives:

use genome information to understand better the functioning and dysfunctioning of the brain, in order to gain new insight into mental processes, to combat neurological disorders and diseases, and to improve brain repair.

Interest by Covalys:

Covalys technology allows to express a protein tag on the surface of certain cells within an organism and subsequently to label this protein tag covalently with a label of choice. Of particular interest are fluorescent labels with excitation and emission in the range from 650nm to 950nm which allow the use of imaging technologies even in small living mammalian animals. Covalys would be interested to develop and to optimize such labels for use in ‘in vivo’ studies in the neural systems of such animals.