

## SMEs go LifeSciences – Projects under preparation

### 1. ADVANCED GENOMICS AND ITS APPLICATION FOR HEALTH

#### b) Application of knowledge and technologies in the field of genomics and biotechnology for health

Rational and accelerated development of new, safer, more effective drugs including pharmacogenomics approaches (IP, STREP, STREP-PME)

- LSH-2005-1.2.1-1: Marker profiling as a new tool for predictive toxicology - INTEGRATED PROJECT
- LSH-2005-1.2.1-2: New tools to investigate ADME properties of drugs involving a carrier system - STREP
- LSH-2005-1.2.1-3: Rational and accelerated development of new, safer, more effective drugs including pharmacogenomics approaches - STREPs dedicated to SMEs

**Projects # 71, 72, 88, 92, 107, 112, 117**

#### Project #71

Project #71 - TEVA Pharmaceutical Industries - Israel

Date: 2005/04/05	Deadline: 2006/12/31
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Contact			
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<b>Website</b>	www.tevapharm.com		

Familiar with the European Framework Programme? **YES**

## PROJECT

<b>Title:</b> Biomarkers of toxicology		<b>Acronym:</b>	
<b>Project type</b>	STREP		
<b>Status</b>	Planned for submission		
<b>Call references</b>	Call 4th		
<b>Priorities' Main Research Areas</b>	Life Science genomics and biotechnology for health		
<b>Workprogramme Topic</b> (according to each priority workprogramme)	LSH-2005-1.2.1-1: Marker profiling as a new tool for predictive toxicology		
<b>Project description</b> Develop methods and identify novel markers of toxicity following short term administration to animal or in-vitro in isolated tissues.			
<b>Keywords</b>	Toxicogenomic, nephrotoxicity, in vitro toxicity, hepatotoxicity, cardiotoxicity, reproduction toxicity		
<b>Partners already involved</b>	Dr. M. Volokita - Ben Gurion University of the Negev, IL		
<b>Project budget (for the running projects)</b>	nc	<b>Budget reserved for SMEs</b>	nc

## Research topics

- LSH-2005-1.2.1-1: Marker profiling as a new tool for predictive toxicology - INTEGRATED PROJECT.

## Profile of SME sought

<b>Role</b>	technology development, research
<b>Country /region</b>	Europe
<b>Start of partnership</b>	start-up phase
<b>Expertise required</b>	-know-how in molecular toxicology. -experience with specific areas of toxicology.

## Project #72

Project #72 - Newbiotechnic S.A. - Spain

Date: 2005/04/05	Deadline: 2006/11/09
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### Contact

<b>Organisation</b>	Newbiotechnic S.A.	<b>Department</b>	Research & Development
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<b>Country</b>	Spain		
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<b>Website</b>	www.newbiotechnic.com		

Familiar with the European Framework Programme? **YES**

### PROJECT

<b>Title:</b> Production of bioactive peptides for health using microorganism fermentation of agrifood byproducts	<b>Acronym:</b> AGRIHEALTH
<b>Project type</b>	STREP
<b>Status</b>	Planned for submission
<b>Call references</b>	Call 4th
<b>Priorities' Main Research Areas</b>	Application of knowledge and technologies in the field of genomics and biotechnology for health
<b>Workprogramme Topic</b> (according to each priority workprogramme)	Rational and accelerated development of new, safer, more effective drugs including pharmacogenomics approaches

### Project description

The project will focus on the valorisation of Agriculture and Agrifood Industry by products applying fermentation processes where enzymes (proteases) will produce peptides with bioactive properties for human health.

The proteases to be used in the project have been identified in the functional genomic project TRICHOEST (EU FPV). The project will also focus on the screening of other microbial biodiversity collections to identify new proteases able to produce new bioactive peptides for human health. Clinical trials will be performed to test antioxidant properties, antiaging, anticolesterolemic, anti-inflammatory and anticarcinogenic effects and cardiovascular protection.

<b>Keywords</b>	Human Health, Biomaterial, Bioeconomy, Genomics, Valorisation of byproducts, Cardiovascular diseases, Cancer, Aging, Immunomodulation		
<b>Partners already involved</b>	Sevilla University (Sevilla, SPAIN) Spanish Research Council (CSIC)-Fat Institute, Sevilla, SPAIN Newbiotechnic S.A. (NBT)		
<b>Project budget (for the running projects)</b>	nc	<b>Budget reserved for SMEs</b>	nc

### Research topics

- LSH-2005-1.2.1-3: Rational and accelerated development of new, safer, more effective drugs including pharmacogenomics approaches - STREPs dedicated to SMEs

- LSH-2005-2.1.4-3: Understanding the responsiveness of elderly people towards vaccination and infectious diseases - STREPs dedicated to SMEs

### Profile of SME sought

<b>Role</b>	technology development, demonstration, other
<b>Country /region</b>	Any country/region
<b>Start of partnership</b>	mid-term
<b>Expertise required</b>	Clinical trials in areas of aging, cancer, immunogenicity, cardiovascular diseases, biomedical products commercialisation

## Project #88

Project #88 - IBEX – International Biotechnology Experts - Israel

Date: 2005/06/10	Deadline: 2006/12/31
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### Contact

<b>Organisation</b>	IBEX – International Biotechnology Experts	<b>Department</b>	
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<b>Website</b>	www.ibexperts.com		

Familiar with the European Framework Programme? **YES**

### PROJECT

<b>Title:</b> Personalized Drugs based on Pharmaco-Genomics and Pharmaco-proteomics	<b>Acronym:</b> Personalized Drugs
<b>Project type</b>	STREP
<b>Status</b>	Planned for submission
<b>Call references</b>	Call 4th
<b>Priorities' Main Research Areas</b>	Advanced Genomics and its Application for health
<b>Workprogramme Topic</b> (according to each priority workprogramme)	LSH-2005-1.2.1-3 - Application of Knowledge and Technologies in the Field of Genomics and Biotechnology for Health

### Project description

The "Personalized Drugs" project focuses on the application of pharmaco-proteomics knowledge in drug development through the combination of computer- and laboratory-based approaches. In general, pharmacoproteomics knowledge will be obtained by processing and by integrating relevant data for a given disease. The source of this data stems from scientific literature, bioinformatics, genomics, functional genomics, structural bioinformatics and cheminformatics databases. The pharmaco-proteomics knowledge will be stored in a searchable and user-friendly relational database.

Information on proteins, which serve as drug-targets, will be extracted from the databases and used to express and produce wild type and genetic variant proteins involved in a given disease. In parallel to the laboratory-based experiments, these proteins will be modeled and/or crystallized to determine their three-dimensional structure. Based on the structure and other biochemical data, the mechanism of action will be explored.

The combination of the computer and laboratory-based experimental results will be used to rationally design and/or modify pharmacogenomics drugs.

<b>Keywords</b>	Drug design, pharmacoproteomics, pharmaco-proteomics, pharmacogenomics, pharmaco-genomics, SNPs, protein structure, homology modeling, bioinformatics sequence analysis, chemistry, databases, protein biosynthesis, chemical synthesis		
<b>Partners already involved</b>			
<b>Project budget (for the running projects)</b>	nc	<b>Budget reserved for SMEs</b>	nc

### Research topics

- LSH-2005-1.2.1-3: Rational and accelerated development of new, safer, more effective drugs including pharmacogenomics approaches - STREPs dedicated to SMEs

### Profile of SME sought

<b>Role</b>	technology development, research, dissemination, demonstration
<b>Country /region</b>	All countries
<b>Start of partnership</b>	start-up phase
<b>Expertise required</b>	<ul style="list-style-type: none"> <li>* Research institutions focusing on protein homology modelling, docking, computational biology and computational chemistry</li> <li>* Pharmaceutical companies that synthesize small molecules and carry out bioassays</li> <li>* Biotechnology companies producing proteins and determine protein structures through X-ray crystallography</li> <li>* Chemical companies synthesizing small molecules</li> <li>* Hospitals and CROs carrying out clinical trials</li> </ul>

## Project #92

Project #92 - SimeTRA Pharm LTD. - Israel

Date: 2005/06/19	Deadline: 2006/12/31
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### Contact

<b>Organisation</b>	SimeTRA Pharm LTD.	<b>Department</b>	
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<b>Website</b>	www.simetrapharm.com		

Familiar with the European Framework Programme? **YES**

### PROJECT

<b>Title:</b> Developing anti-cancer drugs based on pro-apoptotic	<b>Acronym:</b> apoptotic anti-cancer drugs
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<b>Project type</b>	STREP
<b>Status</b>	Planned for submission
<b>Call references</b>	Call 4th

<b>Priorities' Main Research Areas</b>	i) ADVANCED GENOMICS AND ITS APPLICATIONS FOR HEALTH b) APPLICATION OF KNOWLEDGE AND TECHNOLOGIES IN THE FIELD OF GENOMICS AND BIOTECHNOLOGY FOR HEALTH <ul style="list-style-type: none"> <li>• Rational and accelerated development of new, safer, more effective drugs including pharmacogenomics approaches</li> </ul>
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<b>Workprogramme Topic</b> (according to each priority workprogramme)	ii) COMBATING MAJOR DISEASES b) COMBATING CANCER LSH-2005-2.2.0-2: Modulation of apoptosis in cancer prevention and therapy LSH-2005-2.2.0-3: Innovative diagnostic approaches and novel therapies of childhood cancers – STREP. LSH-2005-1.2.1-3: Rational and accelerated development of new, safer, more effective drugs including pharmacogenomics approaches
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**Project description**

SimeTRA Pharm is searching for drugs that will specifically trigger the apoptotic process in cancer cells. SimeTRA is developing drugs based on ARTS, a proprietary powerful pro-apoptotic protein. ARTS is a highly potent pro-apoptotic protein that acts mainly through antagonizing Inhibitor of Apoptosis Proteins (IAPs). In living cells, ARTS resides in mitochondria, but in response to pro-apoptotic stimuli it is released and directly binds to IAPs, thereby inhibiting their ability to prevent apoptosis. Significantly, we have found that ARTS is a tumor suppressor in childhood Acute Lymphoblastic Leukemia (ALL), lymphoma and possibly other malignancies as well. SimeTRA's first products will be focused on treating Hematopoietic cancers (Leukemia, Lymphoma and Myeloma).

SimeTRA is currently focusing on structure - function studies of the ARTS protein as a basis for creating an ARTS mimetic molecule. Small ARTS derived peptides are currently being tested for binding and neutralizing IAPs as well as for their selective apoptotic activity in various cancer cells. The company intends to start testing the relevant peptides and small molecules in an animal model starting Q2/2006, and plans to start pre-clinical studies by Q1/2007 and phase I clinical studies during Q4/2007.

<b>Keywords</b>	Apoptosis, IAPs, ARTS, cancer, leukemia		
<b>Partners already involved</b>			
<b>Project budget (for the running projects)</b>	nc	<b>Budget reserved for SMEs</b>	nc

## Research topics

- LSH-2005-1.2.1-3: Rational and accelerated development of new, safer, more effective drugs including pharmacogenomics approaches - STREPs dedicated to SMEs
- LSH-2005-2.2.0-2: Modulation of apoptosis in cancer prevention and therapy - STREP
- LSH-2005-2.2.0-3: Innovative diagnostic approaches and novel therapies of childhood cancers - STREP

## Profile of SME sought

<b>Role</b>	technology development, research
<b>Country /region</b>	All Europe
<b>Start of partnership</b>	start-up phase

**Expertise  
required**

We are looking for financial support as well as collaborative efforts in developing anti-cancer drug, and novel diagnostic tools for childhood Acute lymphoblastic leukaemia based on pro-apoptotic molecules. Specific expertise such as NMR or crystallography aimed at exploring ARTS structure would expedite drug development.

## Project #107

Project #107 - France

Date: 2005/06/23	Deadline: 2005/12/12
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### Contact

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<b>City</b>	Strasbourg	<b>Website</b>	-
<b>Country</b>	France		

Familiar with the European Framework Programme? **YES**

### PROJECT

<b>Title:</b> Oral Administration of active principles with therapeutical effect	<b>Acronym:</b>
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<b>Project type</b>	STREP
<b>Status</b>	Planned for submission
<b>Call references</b>	Call 4th

<b>Priorities' Main Research Areas</b>	Application of knowledge and technologies in the field of genomics and biotechnology for health / Rational and accelerated development of new, safer, more effective drugs including pharmacogenomics approaches
<b>Workprogramme Topic</b> (according to each priority workprogramme)	LSH-2005-1.2.1-2: New tools to investigate ADME properties of drugs involving a carrier system

#### Project description

Though the oral administration represents the most physiological and comfortable route to give drugs, many active principles fail to pass through the digestive tract where they are denatured or degraded. In addition, their absorption might be limited, not to say prohibited, by the intestinal barrier.

Therefore, we have conceived vectors to protect the active principle against the aggressive environment of the stomach and to facilitate its absorption at the intestinal level.

<b>Keywords</b>	Encapsulation, Biopolymers, Diabetes, Vectors, Drugs, Therapy		
<b>Partners already involved</b>	ICS-CNRS (FR), Res Centre: Polymers/Biopolymers CeeD (FR), Res Inst: Diabetology/Endocrinology Université Libre de Bruxelles (BE), University: Experimental hormonology Università di Pisa (IT), University: Diabetology CTTM (FR), Res Centre: Chemistry - polymers JMUW (DE), Univeristy: Microsurgery UCL (BE), University: Analyses of surfaces and interfaces		
<b>Project budget (for the running projects)</b>	nc	<b>Budget reserved for SMEs</b>	nc

## Research topics

- LSH-2005-1.2.1-2: New tools to investigate ADME properties of drugs involving a carrier system - STREP.

## Profile of SME sought

<b>Role</b>	research
<b>Country /region</b>	any
<b>Start of partnership</b>	start-up phase
<b>Expertise required</b>	<ul style="list-style-type: none"> <li>- Encapsulation</li> <li>- Biopolymers</li> <li>- Polymers synthesis</li> <li>- Transgenic animals</li> </ul>

## Project #112

Project #112 - Spain

Date: 2005/06/30	Deadline: 2039/12/12
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### Contact

#### Partner search located in Spain

To obtain more information about this Partner Search, feel free to contact our national expert in charge of this file:

<b>Organisation</b>	CR 26 / REDFUE - University-Enterprise Foundations Network		
<b>Official Representant</b>	LETAMENDI VIÑAU, Mr Juan Andrés		
<b>Expert</b>	GARCÍA LÓPEZ, Mr Pedro José		
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<b>Address</b>	C/ Ponzano 69-71, 9º-19º		
<b>Postcode</b>	E-28003	<b>City</b>	MADRID
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<b>Telephone</b>	+34-91-399 09 06	<b>Fax</b>	+34-91-399 21 78

Familiar with the European Framework Programme? **YES**

### PROJECT

<b>Title:</b> Procyanidins and metabolic syndrome	<b>Acronym:</b>
<b>Project type</b>	Integrated Project
<b>Status</b>	Planned for submission
<b>Call references</b>	Call 4th
<b>Priorities' Main Research Areas</b>	Advanced Genomics and its applications for Health Combating Major Diseases

<b>Workprogramme Topic</b> (according to each priority workprogramme)	Application of knowledge and Technologies in the field of genomics and biotechnology for health Research on cardiovascular disease Research on Type II diabetes
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**Project description**  
The results obtained by our group within the research project AGL2002-0078, as well as those published by other authors, led us to hypothesize that procyanidins might be functionally bioactive molecules for the prevention and/or correction of the metabolic syndrome. In a first step, we will identify, using *in vitro* screening, those species of procyanidins that are more bioactive, either individually or combined in different proportions. Next, we will test the effectiveness of the selected procyanidins in laboratory animals in which a metabolic situation similar to that of metabolic syndrome in humans will be induced by a high-fat diet. In these animals, we will assess the effectiveness of the selected procyanidin/s both in preventing and in correcting the syndrome. To get insight into the metabolic targets of the procyanidin/s, we will perform different methodological approaches: *in silico* analysis of ligand-protein interactions; evaluation of procyanidin/s effects on the main metabolic pathways that are altered in the metabolic syndrome and in the global gene expression profile. Finally, we will evaluate the effectiveness of the selected procyanidins in cultured human macrophages and adipocytes obtained from individuals affected by the metabolic syndrome, since accumulating evidence suggests that the dysfunction of adipose tissue and its production of cytokines is tightly linked with the genesis and progression of the metabolic syndrome. The interest of this project is the use of procyanidins in the design of functional foods, aimed to prevent or correct the increasing incidence of the metabolic syndrome, a pathology of high prevalence in developed societies, and whose etiology is highly associated with nutritional habits.

<b>Keywords</b>	procyanidins, metabolic syndrome, functional food		
<b>Partners already involved</b>			
<b>Project budget (for the running projects)</b>	nc	<b>Budget reserved for SMEs</b>	nc

## Research topics

- LSH-2005-1.1.1-1: A systems approach to understanding the regulation of gene transcription - INTEGRATED PROJECT.
- LSH-2005-1.2.1-3: Rational and accelerated development of new, safer, more effective drugs including pharmacogenomics approaches - STREPs dedicated to SMEs
- LSH-2005-2.1.1-10: Research on cardiovascular disease with strong SME involvement - STREPs dedicated to SMEs
- LSH-2005-2.1.1-4: Functional genomics and regulatory networks in lipid metabolism and their effects on the development of atherogenic vascular disease - STREP
- LSH-2005-2.1.1-5: Gene-environment interaction on the incidence of type 2 diabetes - INTEGRATED PROJECT

## Profile of SME sought

<b>Role</b>	other
<b>Country /region</b>	All

<b>Start of partnership</b>	start-up phase
<b>Expertise required</b>	Our partners should be SME interested in flavonoids and its impact on health and healthier foods.

## Project #117

Project #117 - University of Western Brittany - France

Date: 2005/07/12	Deadline: 2005/12/31
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### Contact

<b>Organisation</b>	University of Western Brittany	<b>Department</b>	
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<b>Website</b>			

Familiar with the European Framework Programme? **YES**

### PROJECT

<b>Title:</b> Development and optimisation of synthetic transfection reagents for Cystic Fibrosis and lung diseases through in vivo application	<b>Acronym:</b>
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<b>Project type</b>	STREP
<b>Status</b>	Planned for submission
<b>Call references</b>	Call 4th

<b>Priorities' Main Research Areas</b>	ADVANCED GENOMICS AND ITS APPLICATIONS FOR HEALTH; APPLICATION OF KNOWLEDGE AND TECHNOLOGIES IN THE FIELD OF GENOMICS AND BIOTECHNOLOGY FOR HEALTH
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<b>Workprogramme Topic</b> (according to each priority workprogramme)	LSH-2005-1.2.1-2: New tools to investigate ADME properties of drugs involving a carrier system – STREP. This project should address the establishment of new tools for ADME (Absorption, Distribution, Metabolism and Excretion) investigations of therapeutics using selective carriers for targeting particular organs, tissues or cells. It should place special emphasis on the development of relevant read-out systems and include the improvement of tools for early stage prediction of phase I and phase II metabolism		
<b>Project description</b> Cystic Fibrosis is a widespread disease in Europe with high unmet medical need. The objective of this proposal is to mobilise non viral gene therapy group to focus on the lung as a target organ and CF as a model disease. Current research into CF gene therapy focuses on in vivo delivery directly to the lung. We propose here to develop a product pipeline that will facilitate the assessment of novel non viral reagents by bringing together developers with researchers testing gene transfer. The reagents will be compared in realistic systems - either in animals or in primary human cells. For in vivo gene therapy, the reagents will be tested in established mouse and sheep models. The biodistribution of the complexes as well as the metabolism of the synthetic reagents will be evaluated in such models. Although common reporter genes will be firstly used, a key feature of our proposal is based upon the use of a unique plasmid encoding CFTR, the gene mutated in CF. Our overall aim is to develop safe and efficient non viral gene delivery systems for in vivo application, thereby establishing a secure foundation for research into non viral gene therapy for pulmonary diseases such as CF.			
<b>Keywords</b>	Cystic Fibrosis, lung disorders, Gene delivery systems, Synthetic transfection reagents, In vivo administration, transgene biodistribution		
<b>Partners already involved</b>			
<b>Project budget (for the running projects)</b>	nc	<b>Budget reserved for SMEs</b>	nc

## Research topics

- LSH-2005-1.2.1-2: New tools to investigate ADME properties of drugs involving a carrier system - STREP.

## Profile of SME sought

<b>Role</b>	technology development, research
<b>Country /region</b>	There is no specificity about the country of origin. Eastern European countries are welcome.
<b>Start of partnership</b>	mid-term
<b>Expertise required</b>	Transgene development, transfection reagents synthesis, formulation skills, biodistribution capacities