

SMEs go LifeSciences – Projects under preparation

2. COMBATING MAJOR DISEASES

b) Combating cancer

- LSH-2005-2.2.0-1: Broadening the knowledge base on the molecular mechanisms underlying chemotherapy resistance, therapeutic escape, efficacy and toxicity - INTEGRATED PROJECT
- 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
- LSH-2005-2.2.0-4: Innovative research on palliative care in patients with advanced stages of cancer – STREP
- LSH-2005-2.2.0-5: Exploring the patient's cancer stem cell as a novel therapeutic target – STREP
- LSH-2005-2.2.0-7: Innovative technological approaches for cancer therapy - STREPs dedicated to SMEs
- LSH-2005-2.2.0-8: Small-ligand libraries: improved tools for exploration and prospective anti-tumor therapy - STREPs dedicated to SMEs
- LSH-2005-2.2.0-9: Improving resolution of current imaging devices relevant to cancer diagnosis and therapy - STREPs dedicated to SMEs

Projects # 5, 62, 78, 82, 84, 91, 92, 101

Project #5

Project #5 - AKDENIZ UNIVERSITY MEDICAL FACULTY - Turkey

Date: 2004/09/08	Deadline: 2006/11/16
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Contact	
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Familiar with the European Framework Programme? **YES**

PROJECT

Title: The testing of the efficacy of adenovirus-TRAIL mediated gene therapy approach for patients with prostate or breast cancer.	Acronym: ProscancerBreGT
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Project type	STREP
Status	Planned for submission
Call references	Call 4th

Priorities' Main Research Areas	ii) Combating Major Disease b) Combating Cancer
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Workprogramme Topic (according to each priority workprogramme)	LSH-2004-2.2.0-6: Prevention, detection and treatment of familial cancers, such as cancer of the prostate, ovary, breast, colon and skin
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Project description

Prostate carcinoma is the second leading cause of death in men from cancer following lung carcinoma and remains as the most frequently diagnosed male cancer in the world. The death ligand "TRAIL" has been shown to induce apoptosis in prostate cancer cell lines both in vitro and in vivo. Due to the testing of a limited number of cell lines, the application of TRAIL for cancer gene therapy requires further investigation and the efficacy of TRAIL for various prostate tumor types needs to be assessed. Besides, TRAIL resistance observed in some of the cell lines appears to be quite challenging and represents an unambiguous obstacle for any TRAIL mediated gene therapy approach. Considering all these barriers, novel gene therapy approaches will be sought after to breakdown the TRAIL resistance observed in prostate cancer cells. Then, primary cell cultures will be established from patients with varying degrees of prostate carcinoma and these cells will be tested for TRAIL sensitivity. Consequently, the efficacy of TRAIL for various stages of prostate carcinoma will be uncovered. Our novel gene therapy approaches complemented with chemotherapeutic agents portrayed in this proposal should be very appealing in breaking down the TRAIL resistance observed in patients with prostate carcinoma.

Breast cancer is the most commonly seen cancer type in women and the second leading cause of cancer death. Surgery, radiotherapy and chemotherapy, each have important roles in the treatment of breast cancer. However, these treatment modalities did not improve the survival rate of patients with locally advanced or metastatic breast cancer. For this reason, novel treatment methods are needed. Currently, many studies are being conducted to evaluate the potential of Tumor Necrosis Factor (TNF)-Related Apoptosis-Inducing Ligand (TRAIL) use against breast cancer. Despite TRAIL selectively induces apoptosis in cancer cells, TRAIL resistance observed in patients with breast cancer complicated TRAIL mediated gene therapy approaches. In this proposal, molecular studies will be conducted to better understand the mechanism of TRAIL induced apoptosis in breast cancer cells. In addition, the potential application of adenovirus mediated TRAIL gene delivery will be assessed in detail for treating patients with breast cancer.

Keywords	TRAIL, adenovirus, gene therapy, NF-kB, cancer, molecular mechanism, cell signaling
Partners already involved	3

Project budget (for the running projects)	nc	Budget reserved for SMEs	nc
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Research topics

- LSH-2005-2.2.0-2: Modulation of apoptosis in cancer prevention and therapy - STREP
- LSH-2005-2.2.0-7: Innovative technological approaches for cancer therapy - STREPs dedicated to SMEs
- LSH-2005-2.2.0-8: Small-ligand libraries: improved tools for exploration and prospective anti-tumor therapy - STREPs dedicated to SMEs

Profile of SME sought

Role	technology development, research, training, dissemination, demonstration, other
Country /region	EU
Start of partnership	mid-term
Expertise required	Only need a few more partners including SMEs from EU

Project #62

Project #62 - Italy

Date: 2005/03/01	Deadline: 2005/12/31
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Contact

Partner search located in Italy

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

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

PROJECT

Title: A new drug delivery system silical based	Acronym: ANDDS
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Project type	Integrated Project
Status	Planned for submission
Call references	Call 4th

Priorities' Main Research Areas	Drug Delivery Devices Based On Mesoporous Silicate Mesoporous Silicate as Matrix For Drug Delivery Systems of Non-Steroidal Anti-inflammatory Drugs; Surface properties of mesoporous silicate and alumino-silicate modified by reaction with benzoyl chloride
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Workprogramme Topic (according to each priority workprogramme)	<p>In the research field of the controlled drug release, the activity of the research group is to systematically study the utilization of nanomaterials with controlled porosity for the production of DDS (Drug Delivery Systems) which present important advantages compared to the usual drug administration at programmed times. These systems, in fact, allow to address to the target tissue the requested drug amount lowering therapeutic doses and so reducing side effects. They also allow to keep the drug concentration in the organism at a programmed level with very limited variations of the concentration.</p> <p>In this regard the regular (and tunable) pore dimensions and the high available mesoporous volume, together with the non-toxic nature of the silicic mesoporous material allow to foresee substantial advantages in the employ of this material compared to polymeric materials at present utilized.</p> <p>The research group is involved in the systematic investigation of the loading techniques of various types of polar and apolar drugs and their successive release by mimicking the pathway of the matrix/drug system, orally administrated, within the organism. Particular attention is devoted to the synthesis of pro-drugs by covalently binding (directly or through spacers) silanol groups with drugs which can be released in particular physiological conditions.</p>		
Project description Our proposal aims to realize the idea that a new pharmacological formulation, based on a well known drug, represents a totally new pharmacological entity. In particular we aims to realize a new drug delivery system based on inorganic materials. So the way to assume drug is the real innovation.			
Keywords	drug delivery, mesopouros silicate, new pharmacological nanostructured system		
Partners already involved			
Project budget (for the running projects)	nc	Budget reserved for SMEs	nc

Research topics

<ul style="list-style-type: none"> • LSH-2005-1.2.1-2: New tools to investigate ADME properties of drugs involving a carrier system - STREP.
<ul style="list-style-type: none"> • LSH-2005-1.2.2-3: Nanoparticles-based diagnostics - STREP.
<ul style="list-style-type: none"> • LSH-2005-2.2.0-7: Innovative technological approaches for cancer therapy - STREPs dedicated to SMEs

Profile of SME sought

Role	technology development, research, training
Country /region	Any european country
Start of partnership	start-up phase
Expertise required	Industrial expertise

Project #78

Project #78 - GoodOral - Portugal

Date: 2005/05/21	Deadline: 2005/11/09
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Contact

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Website			

Familiar with the European Framework Programme? **NO**

PROJECT

Title: Internal 3D Scanning Aparatus	Acronym: ISA
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Project type	STREP
Status	Planned for submission
Call references	Call 4th

Priorities' Main Research Areas	Combating major diseases / Combating cancer
Workprogramme Topic (according to each priority workprogramme)	Research topic is 2.B.1 Combating Cancer: LSH-2005-2.2.0-9: Improving resolution of current imaging devices relevant to cancer diagnosis and therapy - STREPs dedicated to SMEs

Project description

The idea is to fully develop an internal 3D scanning system that would be perfect to detect cancer in the digestive apparatus, reduced size, with a team of polymer and mechanic engineering, experts in micromoulds and micromachining, as well as electronic engineers to develop microelectronics and systems engineers, for programming tasks.

Combined efforts should be directed towards the generation and validation of a new innovative mean to improve and/or complement resolution of current state-of-the-art imaging modalities, such as SPECT, PET, CT, MRI, MRS and optical imaging used in cancer research and diagnosis of cancer patients, focused on an internal 3D scanning apparatus.

This project is in the idea phase and needs partners on the previous referred research areas: Micromoulds, Micromachining, Microelectronics and Programming. We still need to identify a team of partners to allow the implementation of this project.

Keywords	"Internal 3D Scanning Aparatus", Imaging, Microelectronics, Micromoulding, Micromachining, Image Programing		
Partners already involved	/		
Project budget (for the running projects)	nc	Budget reserved for SMEs	nc

Research topics

- LSH-2005-2.2.0-9: Improving resolution of current imaging devices relevant to cancer diagnosis and therapy - STREPs dedicated to SMEs

Profile of SME sought

Role	technology development, research, training, dissemination, demonstration, other
Country /region	All countries.
Start of partnership	start-up phase
Expertise required	Research project in multidisciplinary consortia on all areas that can allow the correct development on the micromoulding and micromachining adapted to the refered equipment in all aspects, development of the associated microelectronics and development of the adequate software. Help on deciding the correct equipments to develop the prototype and final product in all the domains.

Project #82

Project #82 - Roger Coghill - United Kingdom

Date: 2005/06/02	Deadline: 2005/11/09
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Contact

Organisation	Roger Coghill	Department	
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Website	www.cogreslab.co.uk		

Familiar with the European Framework Programme? **NO**

PROJECT

Title: investigation into the application of plant-derived melatonin and parabenzoquinone as a novel side-effects free intervention in cancer treatment.	Acronym: MQ
Project type	STREP
Status	Planned for submission
Call references	Call 4th
Priorities' Main Research Areas	Collaboration in the in vitro testing of these medications
Workprogramme Topic (according to each priority workprogramme)	Novel; cancer treatments
Project description	In vitro testing of physiological concentrations of melatonin and quinones in high dilution as a corrective factor for faulty cellular metabolism
Keywords	cancer treatment; melatonin; quinones

Partners already involved	none		
Project budget (for the running projects)	1,500,000.00€	Budget reserved for SMEs	5,000,000.00€

Research topics

- LSH-2005-1.2.5-3: Use of cell lines to define new bioassays for the identification of therapeutic bio-molecules (especially orientated towards small and medium sized companies) - STREP

- LSH-2005-2.2.0-7: Innovative technological approaches for cancer therapy - STREPs dedicated to SMEs

Profile of SME sought

Role	technology development, research
Country /region	Wales UK
Start of partnership	start-up phase
Expertise required	PCR, HPLC, GC/MS

Project #84

Project #84 - UNIVERSITY OF IOANNINA - Greece

Date: 2005/06/06	Deadline: 2005/12/07
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Contact

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

PROJECT

Title: Natural photosensitizers for Photodynamic Therapy of cancer (PDT)	Acronym: PHOTOPHYTOMED
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Project type	STREP DEDICATED TO SMEs or STREP
Status	Planned for submission
Call references	Call 4th

Priorities' Main Research Areas	LifeSciences, Genomics and Biotechnology for Health
Workprogramme Topic (according to each priority workprogramme)	<p>LSH-2005-2.2.0-7: Innovative technological approaches for cancer therapy - STREP dedicated to SMEs Proposal could target as well 4th call TP1 topic:</p> <p>LSH-2005-2.2.0-4: Innovative research on palliative care in patients with advanced stages of cancer - STREP</p> <p>LSH-2005-2.2.0-9: Improving resolution of current imaging devices relevant to cancer diagnosis and therapy - STREPs dedicated to SMEs</p>

Project description

Production and use of natural photosensitizers (either as herbal extracts or single chemical components) as novel substances for photodynamic therapy (PDT) and photodynamic diagnosis (PDD) of selected cancer diseases.

Multidisciplinary consortia should develop innovative technological approaches for cancer therapy: Photodynamic therapy should be further improved, refined and translated into clinical applications

Keywords	PHOTOPHYTOMEDICINE, PHOTSENSITISERS, PHOTODYNAMIC THERAPY & DIAGNOSIS		
Partners already involved	PASCAL S.A. (extracts and essential oils)		
Project budget (for the running projects)	nc	Budget reserved for SMEs	nc

Research topics

- LSH-2005-2.2.0-4: Innovative research on palliative care in patients with advanced stages of cancer - STREP

- LSH-2005-2.2.0-7: Innovative technological approaches for cancer therapy - STREPs dedicated to SMEs

- LSH-2005-2.2.0-9: Improving resolution of current imaging devices relevant to cancer diagnosis and therapy - STREPs dedicated to SMEs

Profile of SME sought

Role	technology development, research
Country /region	ANYWHERE IN EUROPE
Start of partnership	start-up phase
Expertise required	Production of Phytotherapeutics, herbal therapeutics, cosmetics Production of lasers for medicine

Project #91

Project #91 - Rambam Medical Center - Israel

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

Organisation	Rambam Medical Center	Department	Pathology Department - Apoptosis and Cancer Research Lab
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Website			

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

PROJECT

Title: Modulation of apoptosis in cancer	Acronym: Apoptosis and Cancer
Project type	STREP
Status	Planned for submission
Call references	Call 4th

Priorities' Main Research Areas	<ul style="list-style-type: none"> ii) COMBATING MAJOR DISEASES <ul style="list-style-type: none"> a) APPLICATIONS-ORIENTATED GENOMIC APPROACHES TO MEDICAL KNOWLEDGE AND TECHNOLOGIES <ul style="list-style-type: none"> • Studying the brain and combating diseases of the nervous system b) COMBATING CANCER
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Workprogramme Topic (according to each priority workprogramme)	<p>LSH-2005-2.1.3-4: Schizophrenia: from genotype to phenotype – STREP.</p> <p>LSH-2005-2.1.3-8: Early markers and new targets for neurodegenerative diseases</p> <p>LSH-2005-2.2.0-2: Modulation of apoptosis in cancer prevention and therapy</p> <p>LSH-2005-2.2.0-3: Innovative diagnostic approaches and novel therapies of childhood cancers – STREP.</p>
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Project description

Our lab research is focused on ARTS which 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. This work constitutes the first evidence that inactivation of a pro-apoptotic protein promotes malignancies, and it validates IAPs as important and promising targets in cancer therapy. Our lab also obtained evidence for abnormal expression of ARTS in other diseases, including schizophrenia, Parkinson's disease, astrocytomas, hepatomas and cardiovascular disease. These observations provide a rich platform for better understanding the contribution of apoptosis to these various diseases, and for developing drugs that are based on ARTS.

Keywords	Apoptosis, cancer, IAPs		
Partners already involved	-		
Project budget (for the running projects)	nc	Budget reserved for SMEs	nc

Research topics

- LSH-2005-2.1.3-4: Schizophrenia: from genotype to phenotype - STREP
- LSH-2005-2.1.3-8: Early markers and new targets for neurodegenerative diseases - 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

Role	research, other
Country /region	All Europe
Start of partnership	start-up phase
Expertise required	Researchers working on apoptotic pathways or apoptotic proteins and their regulation and involvement in cancer. NMR or crystallography experts that could reveal the structure of ARTS protein

Project #92

Project #92 - SimeTRA Pharm LTD. - Israel

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

Organisation	SimeTRA Pharm LTD.	Department	
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Familiar with the European Framework Programme? **YES**

PROJECT

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

Priorities' Main Research Areas	ii) COMBATING MAJOR DISEASES b) COMBATING CANCER 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"> • Rational and accelerated development of new, safer, more effective drugs including pharmacogenomics approaches
Workprogramme Topic (according to each priority workprogramme)	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

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.

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

Role	technology development, research
Country /region	All Europe
Start of partnership	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 #101

Project #101 - Universidad Pablo de Olavide - Spain

Date: 2005/06/22	Deadline: 2005/11/09
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Contact

Organisation	Universidad Pablo de Olavide	Department	Oficina de Transferencia de Resultados de Investigación
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Website	www.upo.es/otri		

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

PROJECT

Title: Exploring the patient's cancer stem cell as a novel therapeutic target	Acronym:
Project type	STREP
Status	Planned for submission
Call references	Call 4th
Priorities' Main Research Areas	Regulation of hematopoietic stem cell differentiation during development
Workprogramme Topic (according to each priority workprogramme)	LSH-2005-2.2.0-5

Project description

Current studies focus in three lines of work:

- Notch signaling pathway in HSC biology by manipulation of Notch family members expression by the 3'enhancer;
- contribution potential of HSC to vascular endothelium during development and
- characterization of new HSC enhancer from SCL, an ongoing collaboration with the Cambridge group.

Future work will continue to explore the differentiation potential of HSC during development in combination with the analysis of genes relevant to HSC biology and their targeted expression driven by HSC-enhancers.

Keywords	stem cell, cancer		
Partners already involved			
Project budget (for the running projects)	nc	Budget reserved for SMEs	nc

Research topics

- LSH-2005-1.2.4-1: Tissue engineering approaches to treating children with birth defects - INTEGRATED PROJECT.
- LSH-2005-1.2.4-3: Stem Cell Therapy for Stroke Patients - STREP
- LSH-2005-2.2.0-5: Exploring the patient's cancer stem cell as a novel therapeutic target - STREP

Profile of SME sought

Role	technology development, research, dissemination, demonstration
Country /region	Any country/ region
Start of partnership	start-up phase
Expertise required	Collaborative research should focus on multidisciplinary, transnational research on several of the pertinent issues of cancer stem cells such as identification, isolation and characterization of cancer stem cells, elucidating signalling pathways that drive their growth and the application of this knowledge to novel treatment strategies. Research on stem cells in other diseases will not be considered in this topic.

