· '.3B's::::::

Biomaterials
Biodegradables
Biomimetics

For more Information go to www.3bs.uminho.pt

3B's is a member of the PT Government Associate Laboratory

















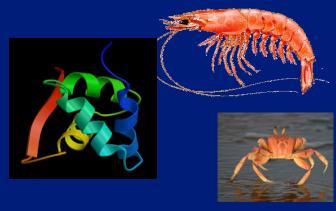


European Institute of Excellence on Tissue Engineering and Regenerative Medicine - Headquarters



DEVELOPMENT AND MODIFICATION OF NATURAL ORIGIN MATERIALS







At 3B's we mainly use natural origin materials:

- -blends of corn starch with several synthetic polymers
- biomaterials from marine origin namely chitin and chitosan derivatives, carragenan, alginates, ceramics of algae origin, ulvan, marine collagen...
- hyaluronic acid, gellan gum, silk fibroin,
 soy bean, casein, chondroitin sulphate,
 etc...





MAIN SOURCES OF FUNDING (FP7)





MSFRP (NMP) - FIND & BIND





Iberomare

MSFRP (KBBE) - SPECIAL

MARMED (Large Euro-Atlantic Project) **IBEROMARE (Large Collaboration PT-SP)**



LSCRP - DISCREGENERATION



MIT-Portugal: Bio-Engineering Systems









3B's - U. Minho Funding



ComplexiTE – European Research Council (ERC) Advanced Grant (AdG) to Rui L. Reis

Rui L. Reis is PI of projects of more than 34 MEuros with a total budget for U. Minho of more than 20 MEuros



ISWA - Immersion in the Science Worlds through Arts (CSA)

BioHybrid: Biohybrid templates for peripheral nerve regeneration (Collaborative - SME-targeted)

MultiScaleHuman – Multi-scale Biological Modalities for Physiological Human Articulation (MC - ITN)

NANOMABIO – Cost Action

Several National (FCT, QREN,...) and Industrial Funded Projects

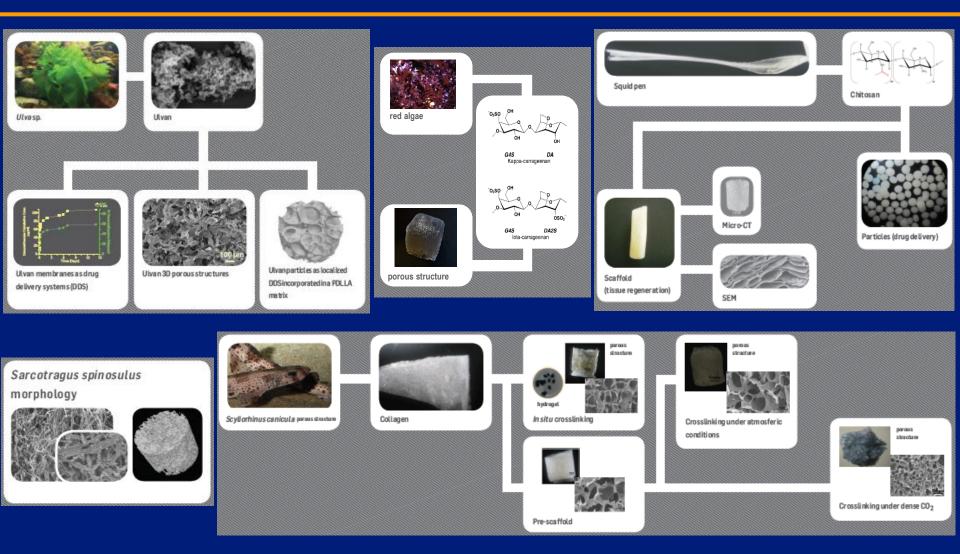
QREN- Large Integrated Project ICVS/3B's







MARINE BIOMATERIALS



Tiago H. Silva, ..., Rui L. Reis, International Materials Reviews, 57 (2012): 276-306.









Contacts

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E-mail: rasousa@stemmatters.com

AMORIM

Cork - Quercus suber L. 1919

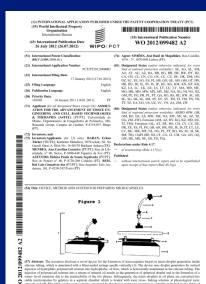




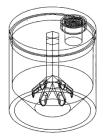




IP Strategy



(12)		States Application Publicati coliveira et al.	On (10) Pub. No.: US 2010/0273253 A1 (43) Pub. Date: Oct. 28, 2010		
(54)	DYNAMIC SYSTEMS FOR CULTURING CELLS IN 3D SUPPORTS		(20) Foreign Application Priority Data Dec. 20, 2007 (PT)		
(76)	Inventors:	Joso Manuel Teixeira de oliveira, Malosinhos (PT); Adriano José De Abreu Pedro, Benga (PT); Roi Luis Goncalves Dos Reis, Porto (PT)	Publication Classification (51) Int. Cl. (2006.01) (2006.01) (52) US. Cl. (405/297.) (67) AINTEACT		
	Correspondence Address: PATENT DOCKET CLERK COWAN, LIEBOWITZ & LATMAN, EC. 1133 AVENUE OF THE AMERICAS NEW YORK, NY 10036 (US)		The present invertion refers to the conception process of new dynamic systems for cell culture in JD supports appropriate to its growing. These are constituted by—cylindrical con- tainer (1) coldriting a terminal area with a tentanet director core shape (2) in the lower internal zone)—cylindrical scree lift (4) the upper external zone)—cylindrical scree lift (4) the upper external zone of which has a cylindrical with		
(21)	Appl. No.: PCT Filed:	12/808,291 Dec. 18, 2008	(7) that penetrates the whole extension of the lid, also containing a coupling central hele (6);—screw cap (10) containing a filter (11) that fits in the cylindrical tube (7) of the lid (4) brougened shaft (12) with an insertion for the derivations in		
(86)	PCT No.: § 371 (c)(1), (2), (4) Date:	PCT/IB2008/013572 Jun. 15, 2010	the lower terminal part (part 'E');—Derivation in the form o twocores forming a gripping tool that sustains the 3D sup- ports. These new systems allow a yield increase in biologica material costs, laboratory consumable and time spent by tech- nical specialized staff.		







(12) INTERNATIONAL APPLICATION FEILEMENT INDIRECTION PRIATY OF CT)

(19) World International Politication Date

(3) International Politication Date

(3) International Politication Date

(3) International Politication Date

(3) International Politication Number

(3) International Politication Number

(3) International Application Number

(3) International Politication Number

(3) International Application Number

(3) International Application Number

(4) International Application Number

(5) Filing Language

(6) Politication Language

(7) Application to administration of the State of Politication Number

(8) International Politication Number

(8) International Politication Number

(9) International Politication Numbe

- Very clear strategy
- Strong Investment
- + 25 patents in the last 5 years









SPonge Enzymes and Cells for Innovative AppLications



THE CONCEPT

SPECIAL project

to establish sustainable, controlled technologies for the production of sponge materials project that addresses bottlenecks in culture methods for marine organisms

Intracellularly produced compounds

secondary metabolites with anticancer potential

Extracellularly produced biomaterials









THE CONSORTIUM

Participant no.	Participant organisation name	Country
1 (Coordinator)	University of Minho (UMINHO)	Portugal
2	Tel Aviv University (TAU)	Israel
3	Porifarma BV (PF)	Netherlands
4	Studio Associato Gaia SNC dei Dottori Antonio Sarà e Martina Milanese (GAIA)	Italy
5	University of Genova (UNIGE)	Italy
6	University of Mainz (UMC)	Germany
7	National Research Center for Geoanalysis (NRCGA-CAGS)	China
8	Karolinska Institute (KI)	Sweden
9	Arthrahasis (ATR)	Italy
10	University of Azores (UAzores)	Portugal
<u> </u>	NanotecMARIN GmbH (NTM)	Germany







Multipolar Centre for the Valorization of Marine Resources and Residues

POCTEP 2007-2013 - Project 0330_1_P





MARMED PROJECT - overview



Development of innovating biomedical products from marine resources valorisation

Main goal

Create a route of sustainable exploitation of marine and aquatic resources for biomedical applications

Evaluation of the potential for valorisation of marine resources and sub-products



- proof-of-concept

Collaboration with companies:

- Marine subproducts
- Valorisation
- Biomedical







MARMED PROJECT - consortium

Participant no.	Participant organisation name	Country
1 (Coordinator)	University of Minho	Portugal
2	Institute of Biomedical Sciences Abel Salazar of University of Porto	Portugal
3	Institute of Marine Research – CSIC	Spain
4	Technological Centre of the Sea – CETMAR	Spain
5	University of Vigo	Spain
6	Portuguese Institute of Sea and Atmosphere	Portugal
7	University of Western Bretagne	France
8	Queen's University Belfast	Northern Ireland
9	National University of Ireland Galway	Ireland
10	University of Algarve	Portugal

A project co-funded by **ERDF** under **Atlantic Area** Transnational Cooperation Programme







