

CRDC - DFM

MISSION

The DFM CRdC defines its particular mission on the basis of the objectives set out in the SRSI regional strategy document and article 3 of the Memorandum of Understanding, that is:

- To carry out research and development activities aimed at promoting licensing and based on "medical needs" in fields of therapy of industrial interest;
- To contribute to the structural concentration of strategic research through co-operation between research institutes and public and private partners;
- To promote the direct involvement of businesses in the process of carrying out and planning innovation, sponsoring the creation of new branch centres of research and/or production of the major firms in the sector;
- To create the conditions for the launch of new agreements with businesses both within and outside the Region for investment in emerging high-tech sectors;
- To integrate pre-competitive research activities with the aim of setting up an incubation reservoir for the systematic development of research potential;
- To promote the spin-off of research and production business initiatives;
- To carry out advanced training activities.

In particular, the main aim of the DFM CRdC is the building up of an integrated structure for the transference to businesses of results obtained in the research field of molecules with diagnostic or pharmacological applications.

GOALS

The goals of the DFM CRdC are:

- ◆ to integrate the centre's research structures in order to create a structure which is a reference point at regional, national and international level with high scientific and technological content in the diagnostic and molecular pharmaceutical sectors;
- ◆ to transfer to businesses the centre's knowledge and expertise;
- ◆ to link up research and development work carried out within the CRdC and elsewhere and projects of interest to industry in the regional, national and international spheres;
- ◆ to promote and foster new projects of interest to industry in the field of pharmaceutical and diagnostic research;
- ◆ to bring to scientific maturity biotech businesses in the pharmaceutical and diagnostic sectors;
- ◆ to train highly qualified staff in the sector of applied research for the study of bioactive molecules in pharmaceuticals and diagnostics;
- ◆ to constitute a co-ordinating and supporting structure for the protection of research results obtained within the centre and look after their subsequent dissemination;
- ◆ to promote specialist mini courses and advanced training schools;
- ◆ to prepare a plan for making available financial resources in order to make the project independent after a three-year incubation period.

ACTIVITIES

The DFM CRdC's Demonstration Project concerns the development of new molecules in with an anti-angiogenic effect. Angiogenesis is the process of formation of new blood vessels in both normal and pathological conditions. The latter case frequently concerns tumoral angiogenesis, that is vascularisation produced by a tumour to nourish itself. The main factor so far identified inducing angiogenesis is the small protein VEGF, which is therefore an important target of the demonstration project.

A second target is represented by integrine, a molecule necessary to the proliferation and migration of cells activated by the chain of signals initiated by VEGF.

The research projects involving the CRdC's researchers cover a vast range of fields and represent 75% of all work done.

In particular, these range from the invention of new pharmaceuticals or diagnostic tools using silicon screening, to studies of imaging and work on animal and human models. These activities make use of the following skills available in the DFM laboratories:

- ◆ drug screening (HTS);
- ◆ structural biology (RX, NMR);
- ◆ calculation and drug design;
- ◆ engineering of nucleic acids;
- ◆ cellular biology;
- ◆ live testing of drugs;
- ◆ diagnostics and imaging;
- ◆ chemistry of natural substances.

STRUCTURE

The DFM CRdC has established a specific internal organisation aimed at guaranteeing efficient co-ordination of the activities of the different operators scattered all over the region.

This organisational structure is headed by the Board of Management, which oversees the management of the whole structure.

From an operational point of view, the DFM CRdC has a departmental structure organised into Poles, allowing its deployment according to areas of scientific expertise. These areas of expertise do not coincide with specific geographical areas, since each Pole is able to subsume specific expertise deriving from different individuals. The management and organisation of the Poles are the responsibility of the Pole Directors, who are based in different areas of the region in order to constitute a regional network of scientific representatives organised according to their areas of specialisation. The presence of the Pole Directors on the Scientific Committee guarantees the synergy and effective deployment of these specific skills.

The CRdC is equipped with laboratory apparatus and large machines for a total value of over 50 million Euros. Human resources amount to 166 staff members engaged in research and development and 21 staff in technical/administrative positions.

PROJECTS/PRODUCTS

Since the launch of the DFM CRdC, its associates have obtained the following patents:

- Cyclic peptides antagonistic to Urotensine-II FI2003A000238 dated 13/09/03 Extended to PCT International Patent on 13/09/04
- Peptide Ligands for immunoglobulins MI2004A 001569
- Method for identification of agents modulating the metabolism of steroid molecules RM2004A 000357
- Nucleotide sequence and corresponding protein capable of regulating apoptosis 0001322989 issued 14/09/04
- Preparation and use of cyclic and/or ramified peptides and their labelled derivatives as diagnostic and therapeutic agents for the identification, localisation and treatment of tumours over-expressing the CXCR4 chemochin receptor MI2004 A 001114 deposited 1/6/2004
- BAG3 nucleotide and protein sequences to be used in research, diagnostics and therapy for cell death involving diseases, and for modulation of cell survival and/or death WO 03/055908 A2 PCT/EP02/14802, 10/07/03
- New antagonists of the PIGF/Flt1 interaction WO0185796
- Novel chemical classes of therapeutic agents for the treatment of HMGB1-related pathologies 33185PUS, 02/07/04

I SOCI/PARTNER

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