







# INTERNAZIONALIZZAZIONE DEI Centri Regionali di Competenza









### **GEAR - GEnomics for Applied Research**

GEAR promotes the development of applied research in human healthcare, facilitating the diffusion of results obtained and supporting industrial development in the fields of structural and functional genomics. Public and private enterprises are offered high quality consultancy and services for the development of innovative products and processes.

The Main Outputs

## Identification of New Molecular Targets and Innovative Systems for Diagnosis and Therapy of human diseases

GEAR has developed numerous experimental systems to identify and validate molecules to be studied as candidate drugs for human diseases. Genomic and proteomic analyses have been developed for the identification of markers for diagnosis and disease monitoring. HTS equipments and suitable assays are available.

## **Services for Molecular Diagnosis and Functional Genomics**

This output is the result of the development of high throughput instruments and strategies for the analysis of genomic and proteomic information in the medical field. In addition to supplying advanced diagnostic services, carried out by GEAR in the area of molecular diagnostics, it can be useful for preparing prototype kits for molecular diagnostics. The Centre is capable of supplying services/products for diagnosis and pharmaco-genomics to industrial partners interested in commercial development. The high throughput systems, from gene sequencing to proteomic analysis, offered by the Centre together with the bioinformatics facility, are a useful instrument for obtaining information on the molecular mechanisms at the basis of the pathological situations vital for identifying specific diagnostic targets and developing new kits. This service's innovation lies in its capacity to make new molecular techniques available for diagnostics and also for those who can develop new therapeutic approaches.

## Murine Models of Human Pathologies for Preclinical Evaluation of Innovative Therapeutic Protocols

GEAR can manage murine models and, through the genomic and proteomic platforms available to the Regional Competences Centre, conduct preclinical studies on new therapeutic treatments particularly in areas where GEAR has a consolidated knowledge (e.g. tumours of the thyroid). The Centre, due to its well known domestic and international experience in genomic and proteomic analysis, has the capacity to generate, manage and study genetically modified animals. The Centre's expertise is fundamental for the development of commercial products that can be used by companies in the biomedical sector.







#### **Structure**

GEAR is supported by a network of highly specialized laboratories from the major research institutions of Campania Region and the activity is organized into four sections: drug discovery and analysis, diagnostic tool development, discovery management, technical development.

The Centre's main competitive advantages lie in the scientific excellence of its work, proven by the high number of domestic and international collaborations and projects carried out and underway, and by the direct link with clinical fields in which research and development work is being carried out.

The Centre's expertise, quality, know-how and technology are available to industrial partners who have the possibility of utilizing this instrumentation and these services to develop new diagnostic products.

#### **Potential Market**

The Centre is aimed at companies who seek highly qualified consultancy and services in innovative product and process development, public and private enterprises which perform research and development work in human healthcare and promote collaborations in R&D work.

## **Commissioning Bodies/Clients**

Pharma and Biotech Companies

## **Technological Contact**

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