

Institute of Radioisotopes & Radiodiagnostic Products

The Molecular Diagnostics & Cytogenetics Laboratory

The **Molecular Diagnostics Laboratory** offers highly specialized genetic testing services to clinical centers in Greece, as well as to a series of neighboring countries including Cyprus, Serbia & Montenegro, Turkey and Romania. The Laboratory was the first to develop the know-how and to provide the BRCA1 - BRCA2 gene analysis for hereditary breast/ovarian cancer to the Greek population. All the analyses and testing protocols are certified and evaluated by the European Molecular Genetics Quality Network (EMQN). The Laboratory has so far discovered and characterized at least two important founder mutations, frequently encountered in the population and established the first National Database for the genetic profile of the Greek population concerning the BRCA1 and BRCA2 genes. The Laboratory participates in European and International networks such as the European Breast Cancer Linkage Consortium and the International Association for Research in Cancer (IARC) sponsored by the World Health Organization.

The **Cytogenetic Laboratory** provides an array of services to Greek Hospitals and Clinics concerning the molecular cytogenetic analysis of hematological neoplasms, including the characterization of genomic rearrangements, the amplification of specific genes and the exploration of genetic recombinations for the identification of critical mechanisms involved in leukemogenesis. The development of cytogenetic methodologies for the identification of persons with increased radiosensitivity and genetic predisposition to cancer is in progress. The analyses will soon be offered for the individualization of radiation therapy treatments.

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