

## LABORATORY MEDICINE/IMMUNOLOGY

Definition	Dealing with the diagnosis of diseases caused by disorders of the immune system, including autoimmunity, immunodeficiency, hypersensitivity, and transplantation immunology.
Scope of Practice	<p>This area of specialisation in medical laboratory science focuses on the analysis and diagnosis of pathologies related to the immunological system, to quantify those antibodies related to certain illnesses.</p> <p>A Lab Immunologist is responsible for laboratory testing and clinical consultation in several broad areas of Immunology, including allergy, the evaluation of autoimmune disease, immunodeficiencies and immunoproliferative disorders. The work is carried out together with the Molecular Diagnostics, Microbiology, Virology and Haematology laboratories to provide seamless consultation and diagnostics for various clinical scenarios.</p> <p><b>The immunology lab is important in:</b></p> <ul style="list-style-type: none"> <li>• Assessment of biomarkers such as antibodies, cytokines, chemokines, and antigen-specific cells representing the diverse components of the immune system.</li> <li>• The diagnosis and management of rare or complex diseases, such as primary immunodeficiencies, certain autoimmune disorders, and transplantation (organ or hematopoietic) cases, where laboratory assays are required to assess immunophenotype, function, and response to treatment.</li> <li>• Immune deficiencies: Primary immunodeficiencies, including classification, types, and molecular bases of disease pathogenesis. Secondary immunodeficiencies include human immune deficiency, cancer, leukaemia, malnutrition, organ and hematopoietic cell transplantation.</li> <li>• Allergy: Antibody-, cell-, and immune complex-mediated mechanisms to diverse environmental triggers: Allergic rhinitis, hay fever, asthma, hypersensitivity, pneumonia.</li> <li>• Transplantation immunology: Solid organ transplantation: Allograft rejections, types of allograft rejection, immune tolerance and competence, control of infection, and management of immunosuppression, including malignancies, Hematopoietic cell transplantation: Immune reconstitution, immune surveillance and prevention of relapse, graft-vs-host disease.</li> </ul> <p><b>A Lab Immunologist can participate in testing of :</b></p> <ul style="list-style-type: none"> <li>• Autoimmunity: it focuses on the diagnosis and control of autoimmune disease (inflammatory intestinal disease, type I diabetes, celiac disease.....).</li> <li>• HLA area: typification of Human Leukocyte Antigen in blood. It's used in case it's needed during an organ or stem cell transplant process in order to verify compatibility.</li> <li>• Measurement of specific antibodies to microbial antigens, autoantigens, alloantigens, and allergens.</li> <li>• Immunophenotyping.</li> <li>• Complement Assays.</li> <li>• Immunoglobulin, cryofibrinogenemia, and cryoglobulin analyses.</li> <li>• Immune cell activation and function.</li> <li>• Cytokine and/or cytokine receptor analysis.</li> </ul>

	<ul style="list-style-type: none"> <li>• Chemokine and/or chemokine receptor analysis.</li> <li>• Immunogenetics.</li> </ul>
<b>Privileges</b>	<p>A Lab Immunologist is eligible to work in or to manage and direct the Immunology section or unit of the clinical laboratory.</p> <p>A Lab Immunologist is not eligible to lead a medical laboratory alone and must work together with a licensed clinical pathology doctor.</p>
<b>References</b>	DHP Experts
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