

# IMMUNOLOGY

**IMMUNOLOGY** is the study of our immune system. The job of our immune system is to protect us against disease by detecting and killing pathogens and tumor cells. This involves a series of complex mechanisms with the goal of achieving exquisite specificity to fight all the types of pathogens that attack our body.

The immune system has two main arms (a) the innate immunity and (b) the adaptive immunity (see table below for characteristics).

<i>The Two Arms of the Immune System</i>	
<b>Innate</b>	<b>Adaptive</b>
<ul style="list-style-type: none"><li>• Non-specific response</li><li>• Immediate response</li><li>• Involves cellular and humoral components</li><li>• No memory for past exposure</li></ul>	<ul style="list-style-type: none"><li>• Specific response (directed towards specific pathogens)</li><li>• Delayed first response but maximal response to second exposure</li><li>• Involves cellular and humoral components</li><li>• Memory established after first exposure</li></ul>

If the immune system does not function sufficiently or if the pathogenic attack is too great to combat then an organism will become sick. On the other hand, if the immune system becomes hyperactive then autoimmunity will develop.

**AUTOIMMUNITY** develops when an organism fails to recognize its own proteins/molecules as self and ends up eliciting an immunologic response against its own cells and tissues. Examples of autoimmune diseases are rheumatoid arthritis (RA), systemic lupus erythematosus (SLE) and Type I diabetes mellitus (IDDM).

Useful Websites for additional Information:

1. For general information on the immune system visit Wikipedia the free encyclopedia: [http://en.wikipedia.org/wiki/Immune\\_system](http://en.wikipedia.org/wiki/Immune_system)
2. For information on autoimmune disorders visit the American autoimmune related disorders: <http://www.aarda.org/>
3. For more information on specific lab tests visit Lab tests online at: <http://www.labtestsonline.org/understanding/index.html>

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## RHEUMATOLOGY PROFILE I

FBC  
ESR  
Uric Acid  
RF  
Anti CCP Antibodies (RF)  
C Reactive Protein  
ANA

## RHEUMATOLOGY PROFILE II: CONNECTIVE TISSUE

FBC+ESR  
Uric Acid  
ANA  
ANCA-C  
ANCA-P  
*Anti-ds DNA (Crithidia)*  
ENA  
*Anti nRNP*  
*Anti Sm*  
*Anti Ro (SS-A)*  
*Anti La (SS-B)*  
*Anti Jo-1*  
*Anti Scl 70*  
RF  
Anti CCP Antibodies (RF)  
C Reactive Protein

## RHEUMATOLOGY PROFILE III: SLE

FBC + ESR  
Antinuclear Autoantibodies  
Anti-ds DNA  
ENA  
*Anti nRNP, Sm, Ro,*  
*La, Jo-1*  
RF  
Anti CCP Antibodies (RF)  
Anticardiolipin  
Autoantibodies  
Complement 3,4  
C Reactive Protein

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