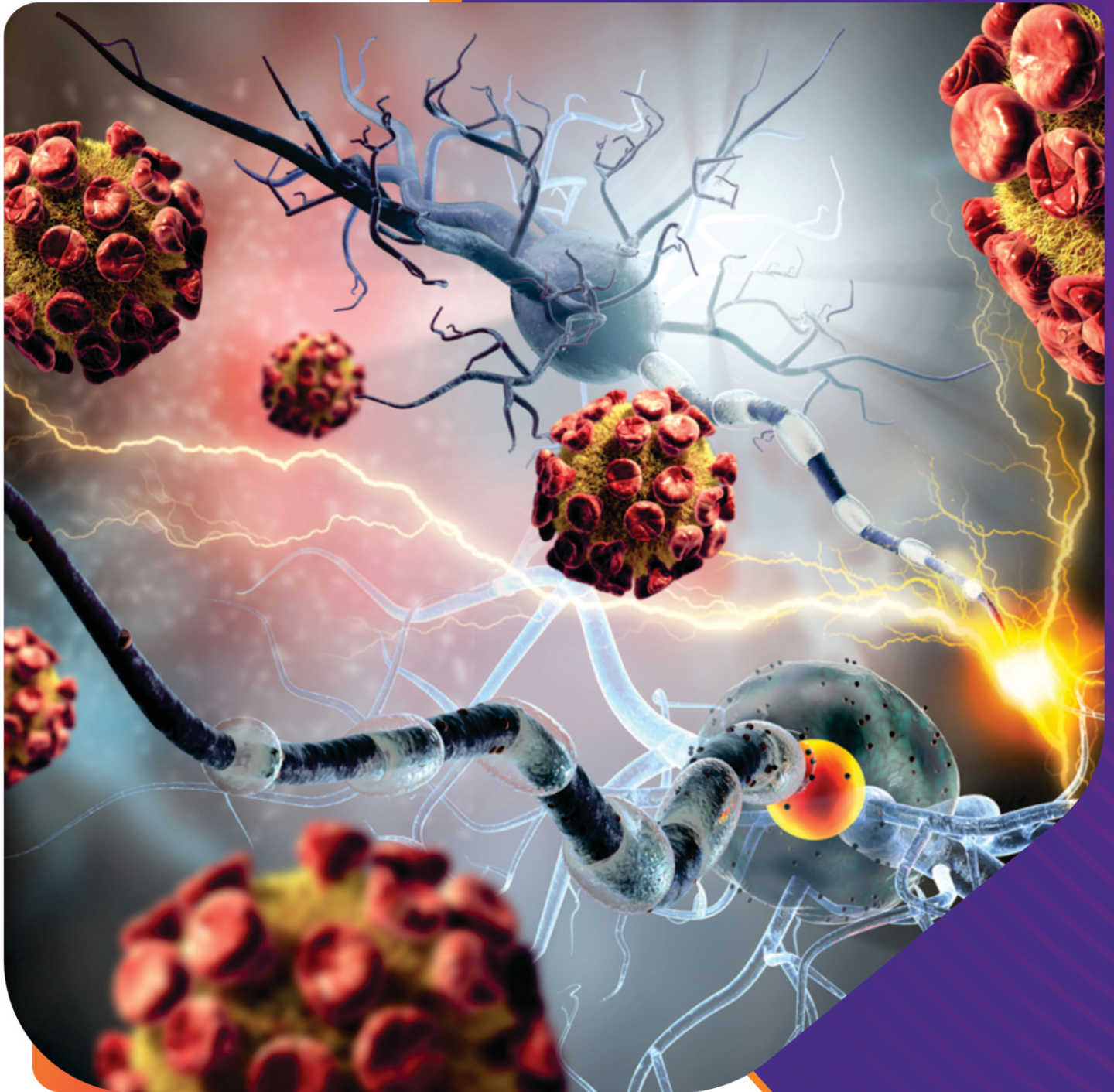




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DIAGNOSTICS

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Neu INSIGHTS



Autoimmune Disease: **Systemic & Organ specific**

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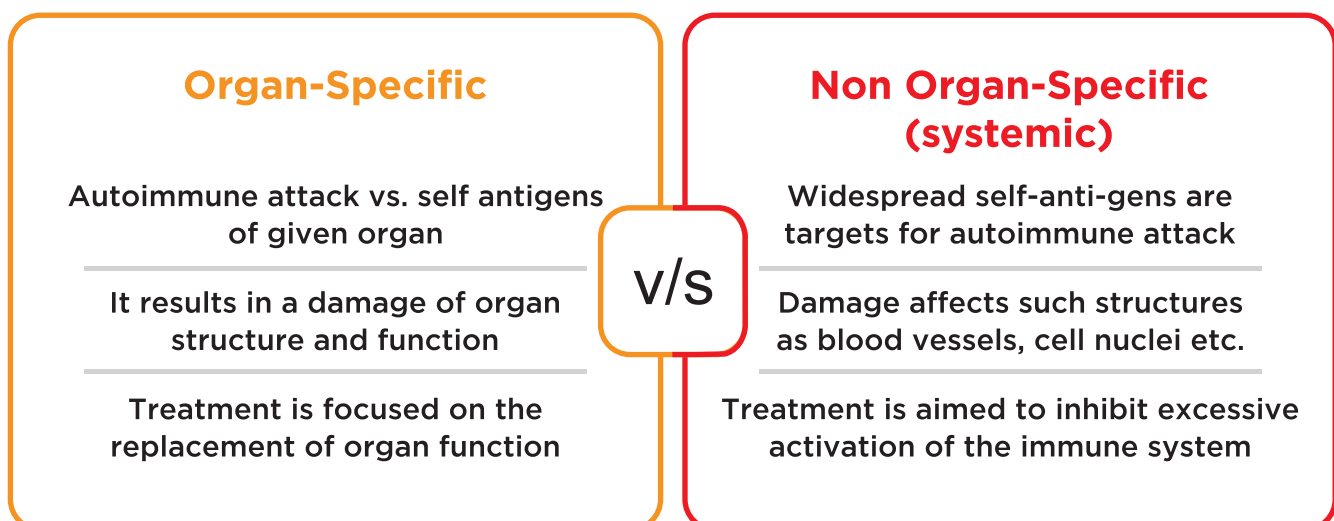
Laboratory Tests for Organ specific Autoimmune Disease:

Disease	Target Organ	Tests
Thyroiditis	Thyroid	Anti thyroid antibodies
Grave's disease	Thyroid	TSH receptor antibody, Thyroid stimulating Immunoglobulin (TSI)
Type-1 Diabetes	Pancreatic beta cell	GAD-65, Ia2, IAA, ICA, Zn8 transporter protein
Gastritis	Stomach	Intrinsic factor antibody
Celiac disease	Small bowel	TTG antibody
Pemphigus	Skin	Desmoglein 1&3
Hepatitis & PBC	Liver & Gall bladder	M2, LKM1, F-actin, SLA
Myasthenia Gravis	Muscle	Acetylcholine receptor antibody, musk Ab
Autoimmune Encephalitis	Brain	Autoimmune Encephalitis Panel, IgLON5
NMOSD	Optic nerve	NMO, MOG
Autoimmune Neuropathy	Peripheral Nerves	Paraneoplastic Panel
Muscles	Myositis	Myositis Panel

Laboratory Testing in Systemic Autoimmune Diseases

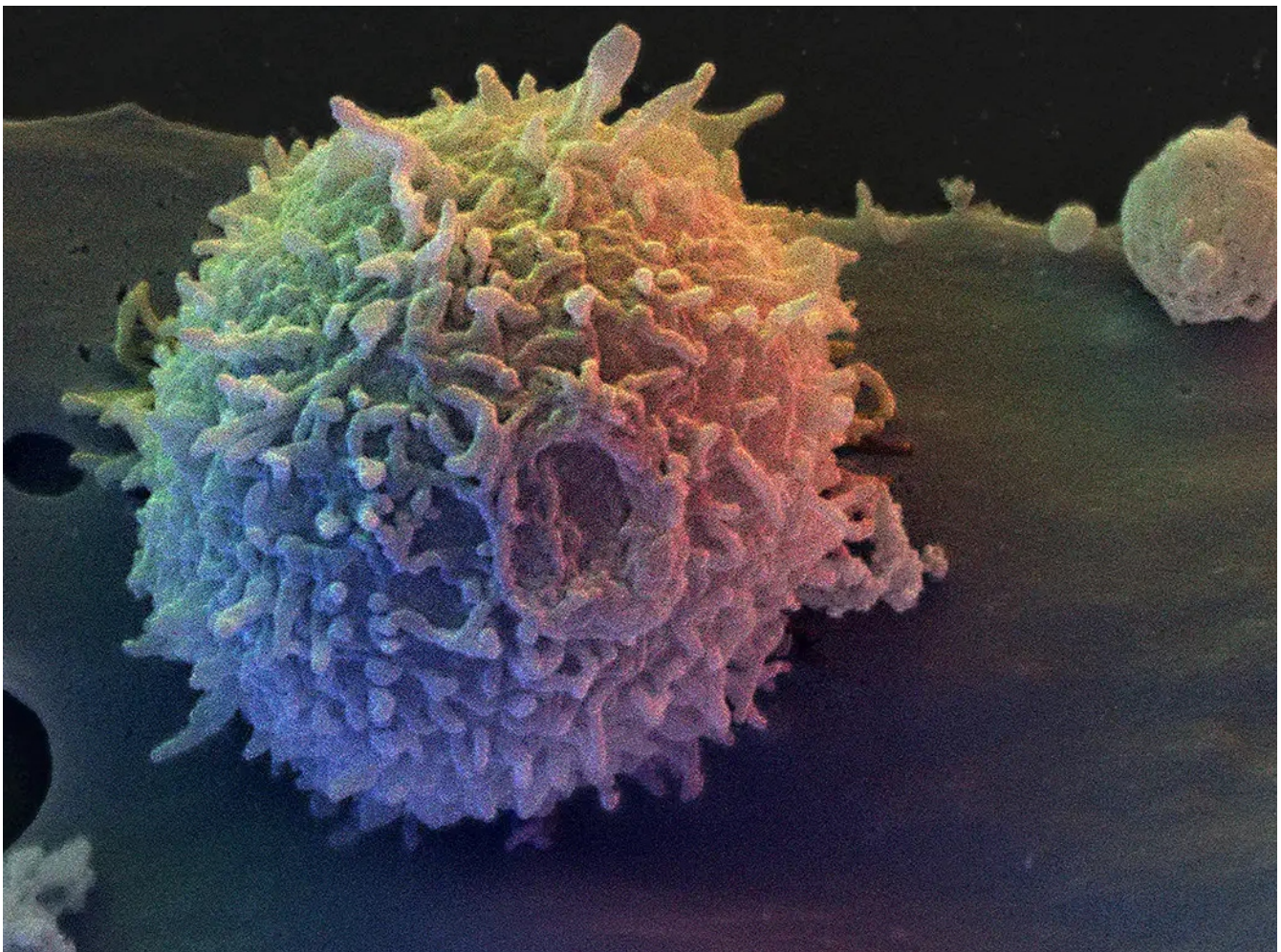
Clinical Setting	Tests to Order
Any systemically ill patient	Complete blood count with platelets, complete biochemical profile, ESR, CRP, urinalysis for blood and protein
Systemic lupus erythematosus and related ANA-associated diseases	ANA, double-stranded DNA antibody, Extractable Nuclear Antigen Antibodies (ENA) (ANA) panel, C3, C4
Sjogren's syndrome	ANA, ENA (ANA) panel for SS-A and SS-B
Systemic sclerosis	ANA, ENA (ANA) panel for Scl-70 and centromere antibodies, RNAIII polymerase antibody
Autoimmune muscle disease	CK, ANA, ENA (ANA) panel for Jo-1, panel of myositis antibodies
Adult-onset Still's disease	Ferritin
Vasculitis	ANCA, PR-3 Ab, MPO antibody, cryoglobulins, hepatitis C antibody, rheumatoid factor
Hyper-IgG4 disease	IgG1- 4 subsets
Antiphospholipid syndrome	Cardiolipin in antibodies, β_2 -glycoprotein 1 antibodies, lupus anticoagulant test

Organ-Specific And Non Organ-Specific (Systemic) Autoimmune Diseases

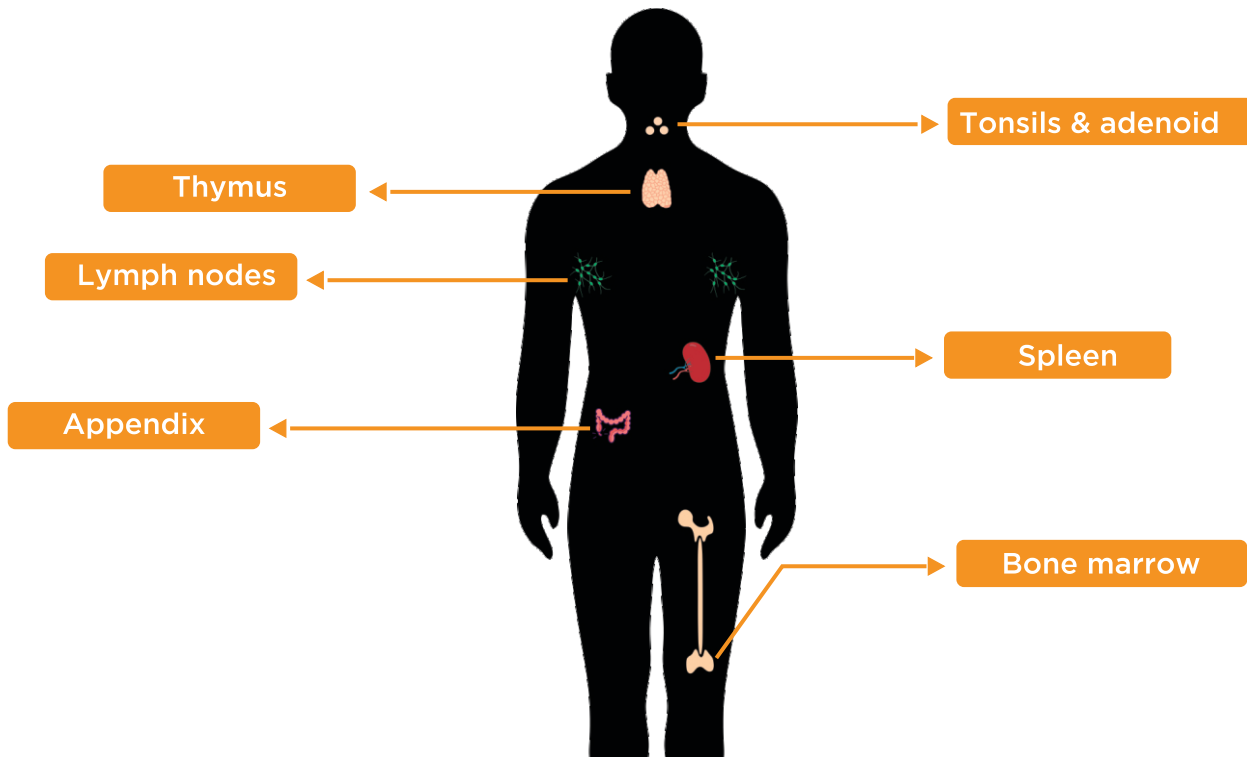


What are autoimmune disorders?

- ▶ Immune System Disorders cause abnormally low activity or over activity of the immune system. In cases of immune system overactivity, the body attacks and damages its own tissues (autoimmune diseases). Immune deficiency diseases decrease the body's ability to fight invaders, causing vulnerability to infections.
- ▶ In response to an unknown trigger, the immune system may begin producing antibodies that instead of fighting infections, attack the body's own tissues. Treatment for autoimmune diseases generally focuses on reducing immune system activity.
- ▶ Systemic autoimmune diseases are a broad range of related diseases characterized by dysregulation of immune system which give rise to activation of immune cells to attack autoantigens and result in inappropriate inflammation and multitissue damages.
- ▶ They are a fascinating but poorly understood group of diseases, ranging from the commonly seen rheumatoid arthritis (RA) and systemic lupus erythematosus (SLE) to the relatively rare systemic sclerosis.
- ▶ The mechanism of pathogenesis of systemic autoimmune diseases is still not very clear. It is now considered that genetic factors, infection, endocrine, and environmental exposure are involved in the pathogenesis of these diseases.
- ▶ There is no treatment strategy to cure this kind of disease at present which gives rise to the needs of long-term lasting treatment, making systemic autoimmune diseases be a mounting public health concern for the foreseeable future.
- ▶ Vital organs such as lung and kidney involvement in systemic autoimmune diseases are common and always presented in a progressive pattern with limited treatment strategy, making them be one of the most common causes of death in patients.



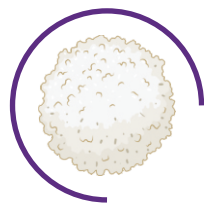
Organs Of the Immune System



Autoimmune disease



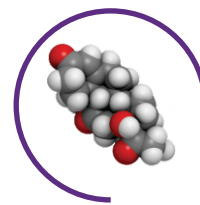
Hereditary



White blood cells



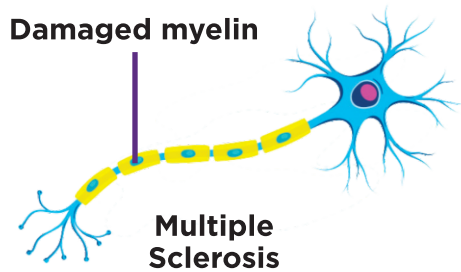
Lifestyle



Hormone influence



Environmental factors

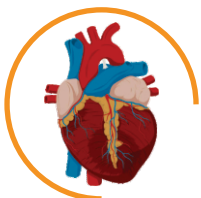


Systemic lupus erythematosus



Rheumatoid arthritis

Symptoms



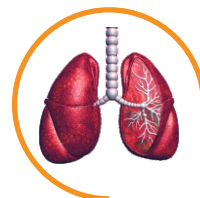
Myocarditis



skin rash



Impaired vision

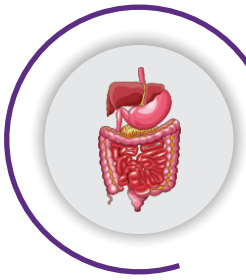


Pulmonary fibrosis



Joint pain

Organ-Specific Autoimmune Diseases



Gastrointestinal tract

- ▶ Pernicious anemia (Biermer anemia)
- ▶ Autoimmune liver diseases (autoimmune hepatitis, primary biliary cirrhosis, and primary sclerosing cholangitis)



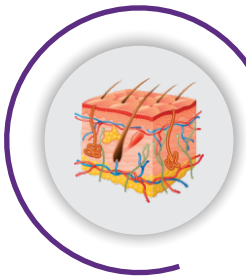
Muscle, nerves and brain

- ▶ Myasthenia gravis
- ▶ Polyneuropathies
- ▶ Guillain-Barre syndrome
- ▶ Multiple sclerosis



Eyes

- ▶ Autoimmune uveitis
- ▶ Autoimmune retinopathy
- ▶ Sympathetic ophthalmia



Skin

- ▶ Vitiligo
- ▶ Autoimmune bullous diseases
- ▶ Alopecia areata



Autoimmune cytopenia

- ▶ Autoimmune haemolytic anaemia
- ▶ Autoimmune neutropenia
- ▶ Autoimmune thrombocytopenia

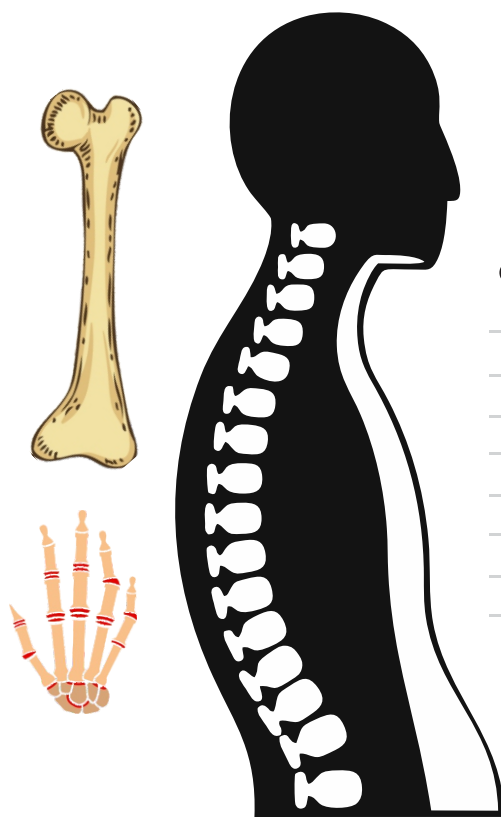


Endocrine glands

- ▶ Type 1 diabetes
- ▶ Autoimmune thyroiditis (Hashimoto's thyroiditis and Graves's disease)
- ▶ Addison's disease
- ▶ Autoimmune polyendocrinopathies

Systemic Or Non Organ-Specific Autoimmune Diseases

01	Systemic lupus erythematosus
02	Gougerot Sjogren syndrome
03	Systemic autoimmune rheumatic diseases (rheumatoid arthritis, ankylosing spondylitis, rheumatic fever, rheumatic heart disease, etc.)
04	Scleroderma
05	Polmyositis
06	Dermatopolymyositis
07	Mixed connective tissue disease
08	Primitive Vasculitis
09	Artrophic polychondritis
10	Antiphospholipid antibody syndrome
11	Celiac disease
12	Myocarditis



Clinical Context

Central neurological / neuropsychiatric involvement

peripheral neuropathies

eye involvement

lung involvement

cardiac/muscular involvement

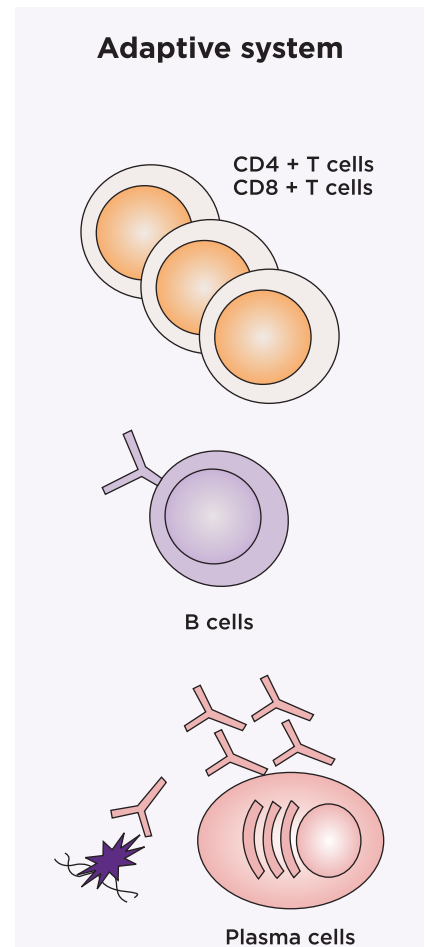
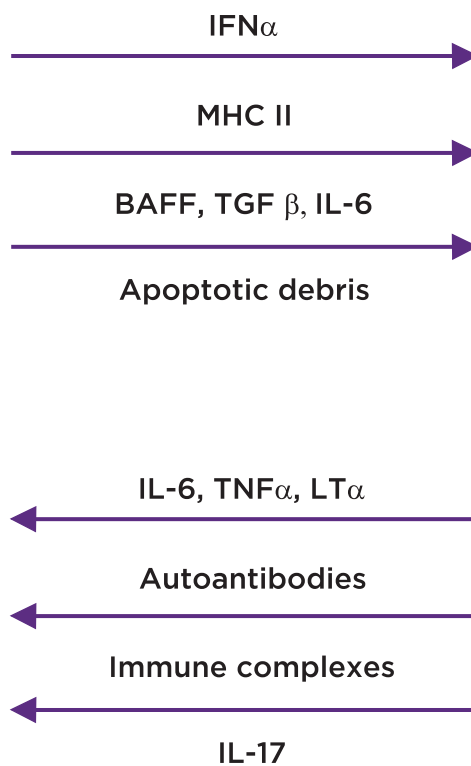
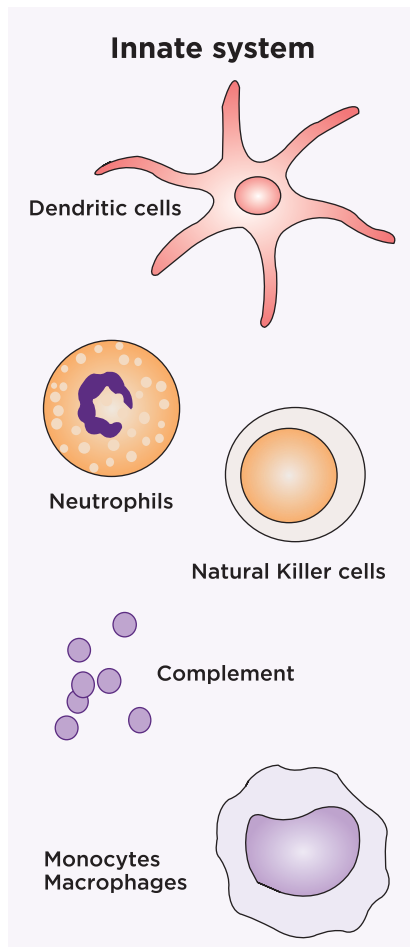
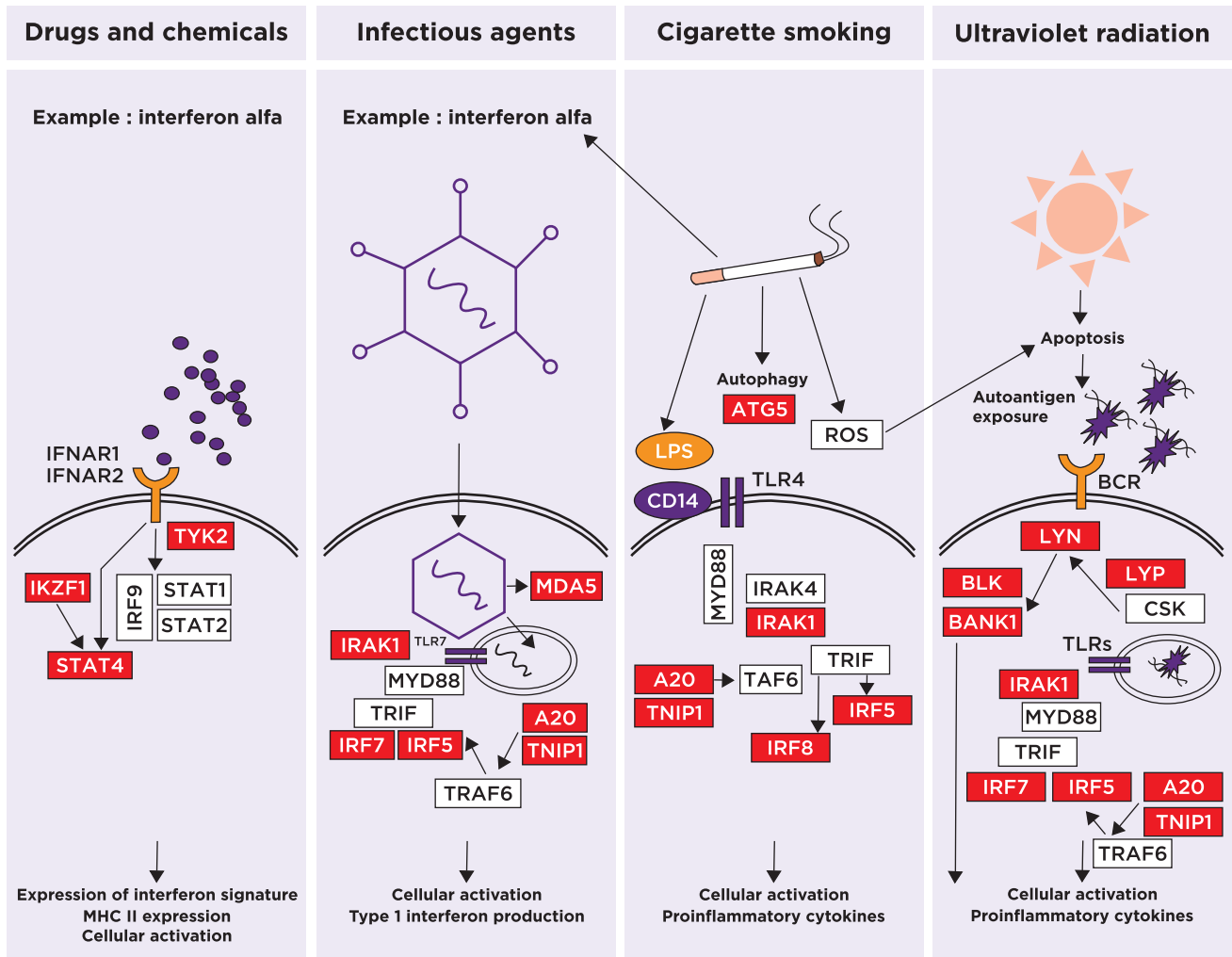
valvulopathy

cutaneous vascular involvement

renal involvement

joint involvement

Environmental trigger





Knock out **medical emergencies,**
before it's too late!

**HEALTH ko aasani se na lo,
TEST aasani se karo**



Blood Tests



Health Packages



ICMR Approved COVID Tests

**“ Get your blood test done
Anywhere, Anytime...
Neuberg hain na ”**

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