

Autoantibody ELISA Kits



Authorized Distributor:

BTL Biotechno Labs Pvt. Ltd.

613-A, Ansal Chamber-II, Bhikaji Cama Place, New Delhi-110066

Mob : +91- 8860924349; 07291852429

E-mail : info@biotechnolabs.com , Web : www.biotechnolabs.com



YOUR GOOD PARTNER IN BIOLOGY RESEARCH!

Postal Address : 7505 Fannin St. Ste 610-322, Houston, TX 77054, USA

Tel : 301-363-4651 (Available 9 a.m. to 5 p.m. CST from Monday to Friday)

Email: support@cusabio.com Web: www.cusabio.com

The immune system is highly sophisticated and complex. Its main functions include protecting the body against external pathogens and recognizing and eliminating apoptotic cells and tumor cells within the body. It maintains the stability of the internal environment through self-immune tolerance and immune regulation. However, when the immune system malfunctions, it may mistakenly attack healthy cells, tissues, and organs, triggering autoimmune reactions and generating pathological autoantibodies. Unlike naturally occurring autoantibodies in the human body, these pathological autoantibodies have a high affinity for self-antigens, leading to pathological damage to self-tissues and the development of autoimmune diseases.

CUSABIO is committed to providing researchers with highly accurate and sensitive autoimmune antibody ELISA kits, covering a variety of common IgG or IgM type autoantibodies such as anti-dsDNA antibodies, anti-nucleosome antibodies, insulin antibodies, and rheumatoid factor antibodies. These kits contribute to the study of the pathogenesis of autoimmune diseases, changes in biomarkers, and new research strategies in oncology. They provide accurate and reliable data support for your scientific research, helping you make breakthroughs in the field of immunology.

1. Autoantibody

Autoantibodies, also known as AAB, are antibodies produced by the human immune system that target self-tissues. They typically include natural autoantibodies and pathological autoantibodies. Natural autoantibodies are predominantly of the IgM class and are encoded by unmutated V(D)J genes, with low affinity for self-antigens. Natural autoantibodies provide the first line of defense against infections and have certain physiological functions, such as maintaining cell function and regulating immune system homeostasis. In contrast, IgG class autoantibodies, which are generated through somatic cell mutations and exhibit high affinity for self-antigens, reflect a pathological process. They may lead to the clearance of normal cells, disruption of antigen-receptor signaling or cellular effector functions, and consequently result in pathological damage to self-tissues.

2. Autoimmune Diseases and Their Types

Autoimmune Disease (AID) refers to a pathological condition in which the immune system mounts an immune response against self-cells or components, leading to disease. The exact causes of autoimmune diseases are not fully understood, but they are believed to involve multiple factors such as genetic predisposition, environmental factors, and abnormal immune system reactions. Currently, over 100 types of autoimmune diseases have been identified, which can be broadly categorized into two types: organ-specific autoimmune diseases and systemic autoimmune diseases.

- **Organ-Specific Autoimmune Diseases:** These diseases involve immune responses primarily targeting specific organs or tissues. Common examples of organ-specific autoimmune diseases include autoimmune thyroid diseases, psoriasis, multiple sclerosis, autoimmune hepatitis, myasthenia gravis, pemphigus vulgaris, type I diabetes, etc.

- **Systemic Autoimmune Diseases:** In contrast, systemic autoimmune diseases involve multiple organs and tissues, with immune responses affecting various systems throughout the body. Some common examples of systemic autoimmune diseases include systemic lupus erythematosus, Behçet's disease, rheumatoid arthritis, inflammatory bowel disease, scleroderma, systemic vasculitis, etc.

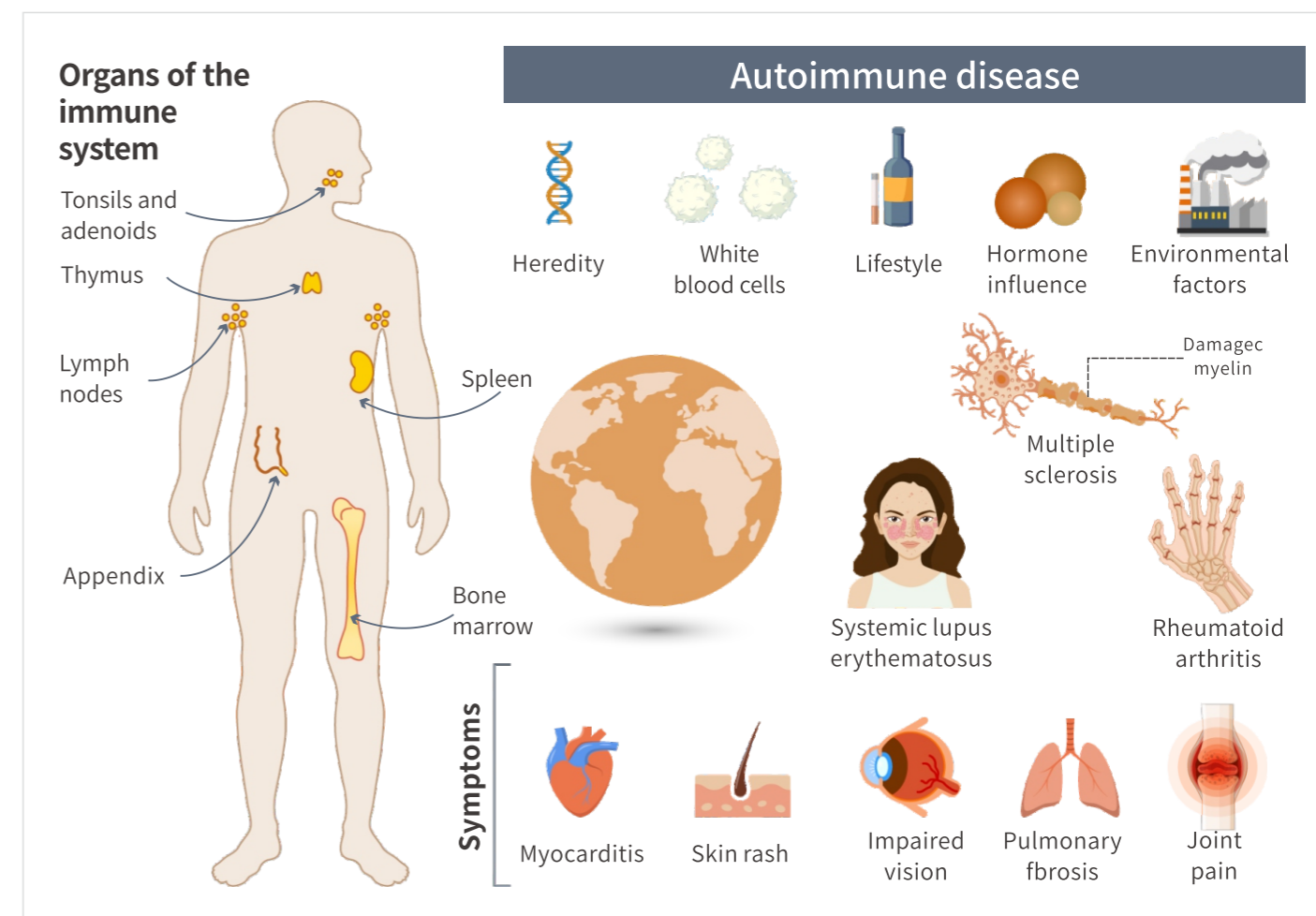


Fig. 1 Causes and common symptoms of autoimmune diseases^[1]

3. Autoantibodies and Autoimmune Diseases

In certain autoimmune diseases, self-antibodies may exist prior to disease onset and exhibit significant specificity, making them key biomarkers to aid in related disease treatment research. In organ-specific autoimmune diseases such as myasthenia gravis or pemphigus vulgaris, self-antibodies directly bind and damage target organs^[2]. In systemic autoimmune diseases such as vasculitis, glomerulonephritis, and systemic lupus erythematosus, self-antibodies react with free molecules (such as phospholipids) as well as cell surface and nuclear protein antigens, forming pathogenic antigen-antibody (immune) complexes. These self-antibodies damage tissues and organs through participation in complement FcγR activation and Toll-like receptor internalization and activation^[3].

4. Autoantibodies and Tumors

In the early stages of tumor development, although tumor antigens are difficult to detect in serum, the human immune system produces tumor-associated autoantibodies, which hold promise as potential biomarkers for early cancer diagnosis. P. Budde et al.^[4] conducted autoantibody analysis on prostate cancer patients treated with prosvac and ipilimumab, and the study found that certain autoantibodies were associated with the occurrence of immune-related adverse events (irAEs) following treatment, while others may help counteract the effects of inflammatory molecules, thereby reducing the occurrence of irAEs. Additionally, several anti-tumor-associated antigen (TAA) autoantibodies have been validated as potential biomarkers for early detection of cancers such as lung cancer and hepatocellular carcinoma^[5,6].

5. The List of CUSABIO's Autoantibody ELISA Kits

Code	Product Name	Target
CSB-E11194m	Mouse anti-double stranded DNA antibody (IgG) ELISA Kit	dsDNA Ab (IgG)
CSB-E05118h	Human anti-sperm antibody,AsAb ELISA Kit	AsAb
CSB-E09568h	Human anti-insulin receptor antibody,AIRA ELISA Kit	InsR Ab
CSB-E15044h	Human Phosphatidylethanolamine Antibody(IgG) ELISA Kit	PE Ab (IgG)
CSB-E04972h	Human islet cell antibody,ICA ELISA Kit	ICA
CSB-E15971h	Human glutamic acid decarboxylase 65(GAD65) antibody (IgG) ELISA Kit	GAD65 Ab (IgG)
CSB-E16639h	Human Muscle Skeletal Receptor Tyrosine Kinase Antibody(MUSK Ab) ELISA Kit	MUSK Ab
CSB-E04911h	Human anti-double stranded DNA(dsDNA) antibody(IgG) ELISA Kit	dsDNA Ab (IgG)
CSB-E08655m	Mouse glutamic acid decarboxylase (GAD) autoantibody (IgG) ELISA Kit	GAD au-Ab (IgG)
CSB-E12912m	Mouse anti-nuclear Antibody (IgG) ELISA Kit	ANA Ab (IgG)
CSB-E08675r	Rat myeloperoxidase-antineutrophil cytoplasmic antibody(MPO-ANCA) ELISA kit	MPO-ANCA
CSB-E11874h	Human anti-Survivin(Surv) antibody ELISA Kit	Surv Ab
CSB-EQ027743MO	Mouse Anti-Cyclic Citrullinated Peptide Antibody (Anti-CCP-antibody) ELISA kit	Anti-CCP-Ab
CSB-E12816h	Human anti-platelet antibody (anti-PA Ab)ELISA Kit	PA Ab
CSB-E09419h	Human Anti-smooth muscle antibody,ASMA ELISA Kit	ASMA
CSB-E13568h	Human Aquaporin 4 Antibody,AQP-4 Ab ELISA Kit	AQP-4 Ab
CSB-E15752h	Human Phosphatidylethanolamine Antibody(IgM) ELISA Kit	PE Ab (IgM)
CSB-E09082h	Human anti-zona pellucida antibody,aZP ELISA Kit	AZPAb
CSB-E13666r	Rat Rheumatoid Factor(RF) ELISA Kit	RF
CSB-EQ027171HU	Human anti-IL1 autoantibody ELISA kit	IL1 auto-Ab
CSB-EQ027671HU	Human anti glial fibrillary acidic protein (GFAP) autoantibody ELISA kit	GFAP auto-Ab
CSB-E04868h	Human anti-cardiolipin antibody(IgG) ELISA Kit	ACA Ab (IgG)
CSB-E09063h	Human anti-cytomegalovirus(CMV) antibody (IgG) ELISA Kit	CMV Ab (IgG)
CSB-E09205h	Human insulin autoantibodies,IAA ELISA Kit	IAA
CSB-E08646m	Mouse anti-cardiolipin antibody (IgG) ELISA Kit	ACA Ab (IgG)
CSB-E09165h	Human Anti-Complement 1q antibody(anti-C1q-antibody)ELISA Kit	C1q Ab
CSB-E08691h	Human anti-endothelial cell antibody,AECA ELISA Kit	AECA
CSB-E13357h	Human anti-ryanodine receptor calcium release channel antibodies ELISA Kit	RRCRC Ab
CSB-E12990h	Human anti-thrombopoietin receptor(C-MPL) autoantibody IgG ELISA kit	C-MPL/TPOR auto-Ab (IgG)

Code	Product Name	Target
CSB-E04787h	Human myelin basic protein(MBP) antibody ELISA Kit	MBP Ab
CSB-E09345h	Human voltage-gated calcium channel antibody(IgG) ELISA Kit	VGCC Ab (IgG)
CSB-EQ027203HU	Human anti streptokinase(SK) antibody ELISA kit	SK Ab
CSB-E10369m	Mouse insulin autoantibodies(IAA) ELISA Kit	IAA
CSB-E09077h	Human anti-cyclic citrullinated peptide antibody (anti-CCP antibody) ELISA Kit	ACCPA
CSB-E15753h	Human Phosphatidic Acid Antibody(IgM) ELISA Kit	IgM
CSB-E08371h	Human acetylcholine receptor antibody,AChRab ELISA Kit	AChR Ab
CSB-E09565h	Human anti-mutated citrullinated vimentin (MCV) antibody ELISA Kit	MCV Ab
CSB-E13555h	Human N-methyl-D-aspartic acid (NMDA) antibody (IgG) ELISA Kit	NMDA Ab (IgG)
CSB-E13356h	Human titin antibody(IgG) ELISA Kit	titin Ab (IgG)
CSB-E14342m	Mouse anti-nucleosome antibody (IgG) ELISA Kit	AnuA Ab (IgG)
CSB-E15976m	Mouse anti-Smith antibody ELISA Kit	Sm Ab
CSB-E08812m	Mouse islet cell antibody,ICA ELISA Kit	ICA
CSB-E08676m	Mouse myeloperoxidase-antineutrophil cytoplasmic antibody ELISA kit	MAC Ab
CSB-E13830r	Rat Anti-Cyclic Citrullinated Peptide Antibody(Anti-CCP-antibody)ELISA Kit	CCP Ab
CSB-E09697h	Human anti-fibrillar antibody,AFA/snoRNP/U3RNP ELISA Kit	AFA/snoRNP/U3RNP
CSB-E11438h	Human anti-Granulocyte-Macrophage Colony Stimulating Factor(GM-CSF) antibody ELISA Kit	GM-CSF Ab
CSB-EQ027571HU	Human rheumatoid factor (RF) antibody (IgG) ELISA kit	RF Ab (IgG)

References

- [1] <https://www.niehs.nih.gov/health/topics/conditions/autoimmune/index.cfm>
- [2] Lazaridis K, Tzartos S J. Autoantibody Specificities in Myasthenia Gravis; Implications for Improved Diagnostics and Therapeutics. *Front Immunol.* 2020 Feb 14;11:212.
- [3] Elkon K, Casali P. Nature and functions of autoantibodies. *Nat Clin Pract Rheumatol.* 2008 Sep;4(9):491-8.
- [4] Budde P, Marte J, Zucht H, *et al.* THU0043 Autoantibody profiling in prosvac and ipilimumab treated prostate cancer patients reveals potential biomarkers of immune-related adverse events. *Annals of the Rheumatic Diseases.* 2018;77:247.
- [5] Wang K, Li M, Qin J, *et al.* Serological Biomarkers for Early Detection of Hepatocellular Carcinoma: A Focus on Autoantibodies against Tumor-Associated Antigens Encoded by Cancer Driver Genes. *Cancers.* 2020; 12(5):1271.
- [6] Jiang D, Wang Y, Liu M, *et al.* A panel of autoantibodies against tumor-associated antigens in the early immunodiagnosis of lung cancer. *Immunobiology,* 2020, 225(1): 151848.