

A-Z of immunology tests

In this section

Here is an A-Z list of immunology tests, together with a brief summary of the clinical applications of each. This is intended purely as a guide.

A

- Acetyl Choline Receptor Antibodies
(https://mft.nhs.uk/app/uploads/2023/06/Acetylcholine-receptor-antibody_.pdf) – Myasthenia Gravis
- Acute Leukaemia panel (<https://mft.nhs.uk/app/uploads/2022/03/Acute-Leukaemia-panel.pdf>) – CD2, CD10, CD13, CD14, CD19, CD33, CD34, CD79a, CD117, TdT, MPO
- Adrenal antibody (https://mft.nhs.uk/app/uploads/2023/07/Adrenal-antibody_.pdf) – The results are positive in 60-70% of patients with idiopathic Addison's disease. Antiadrenal antibodies are also present in 28% of patients with idiopathic hypothyroidism and 7% of patients with Hashimoto's disease.
- Allergy specific IgE (ImmunoCAP) (<https://mft.nhs.uk/app/uploads/2023/07/Allergen-Specific-IgE.pdf>) – Measurement of allergens specific IgE is of value where skin testing is difficult for any reason. Over 100 specific allergens (request panel) are routinely available and can be viewed by selecting the link below. Any requests for allergens that are not on the list should be discussed with a clinician.
- Anti-Basal Ganglia Abs (<https://mft.nhs.uk/app/uploads/2023/07/Anti-Basal-Ganglia-Abs.pdf>) (referred test)
- Anti C1q (<https://mft.nhs.uk/app/uploads/2023/07/Anti-C1q.pdf>) (referred test)
- Anti Myelin oligodendrocyte glycoprotein (MOG) Antibodies
(<https://mft.nhs.uk/app/uploads/2023/07/Anti-Myelin-oligodendrocyte-glycoprotein-MOG-Antibodies-Referred-Test.pdf>) (referred test)
- Anti-neutrophil cytoplasmic antibody (ANCA)
(<https://mft.nhs.uk/app/uploads/2023/07/Anti-Neutrophil-cytoplasmic-antibody-ANCA.pdf>) – Anti-neutrophil cytoplasmic antibodies (ANCA) are found in several types of vasculitis. Samples for ANCA are initially tested by immunofluorescence on neutrophils. Positive samples are then further tested by Multiplex assay for specific antibodies to either proteinase 3 (PR3) or myeloperoxidase (MPO). In general, a classical cANCA pattern corresponds to PR3 reactivity whilst a perinuclear pANCA pattern corresponds to MPO reactivity. Atypical ANCA patterns do not usually correlate with either antigen. These tests are used to diagnose vasculitis and to monitor disease activity. Infections and autoimmunity can produce positive tests reducing the specificity of ANCA testing.

- Antinuclear antibody (ANA) (<https://mft.nhs.uk/app/uploads/2024/02/Antinuclear-antibody-ANA.pdf>) – Indicated in the investigation of suspected “connective tissue disorders”. The absence of ANA almost excludes a diagnosis of SLE. Antinuclear antibodies are detected in other clinical conditions including: Sjögren’s syndrome, systemic sclerosis (CREST), chronic active hepatitis, fibrosing alveolitis, juvenile chronic arthritis and infections.
- AP100 Alternative Pathway Haemolytic Complement (<https://mft.nhs.uk/app/uploads/2023/07/AP100-Alternative-Pathway-Haemolytic-Complement.pdf>)
- Aquaporin 4 (<https://mft.nhs.uk/app/uploads/2023/07/Aquaporin-4-NMO-Neuro-Myelitis-Optica-Abs.pdf>) (referred test)
- Aspergillus fumigatus precipitins (<https://mft.nhs.uk/app/uploads/2023/07/Aspergillus-fumigatus-precipitins.pdf>) – These tests detect presence of IgG antibodies to Aspergillus fumigatus. Aspergillus precipitins. See also: – Farmer’s lung and Avian precipitins.
- Autoimmune diabetes marker panel (<https://mft.nhs.uk/app/uploads/2023/07/Autoimmune-diabetes-marker-panel.pdf>)
- Avian precipitins (<https://mft.nhs.uk/app/uploads/2023/07/Avian-precipitins.pdf>) – As for Aspergillus precipitins.

B

- B Cell Maturation Panel (<https://mft.nhs.uk/app/uploads/2024/02/B-Cell-Maturation-Panel.pdf>)
- Bence Jones protein (Urinary light chains) Urine immunofixation (<https://mft.nhs.uk/app/uploads/2022/08/Bence-Jones-Protein-Urinary-light-chains-Urine-immunofixation.pdf>)
- Beta 2 Glycoprotein (IgG and IgM) (<https://mft.nhs.uk/app/uploads/2023/07/Beta-2-Glycoprotein-IgG-and-IgM.pdf>)
- β2 Microglobulin (<https://mft.nhs.uk/app/uploads/2023/07/s2-Microglobulin.pdf>) – High levels are seen in connective tissue disease, e.g. Sjögren’s, RA, Granulomatous disease like sarcoidosis, CVID

C

- CASPR & LGI1 Antibodies (<https://mft.nhs.uk/app/uploads/2020/01/CASPR-LGI1-Antibodies-referred-test.pdf>) (referred test)
- C1 esterase inhibitor (<https://mft.nhs.uk/app/uploads/2023/07/C1-esterase-inhibitor.pdf>) – Should always request C4 at the same time.
- C1 esterase inhibitor functional test (<https://mft.nhs.uk/app/uploads/2024/02/C1-esterase-inhibitor-functional-test.pdf>)
- C1q (<https://mft.nhs.uk/app/uploads/2023/07/C1q.pdf>) – Reduced levels in acquired angiodema and urticarial vasculitis (referred test)
- C3 nephritic factor (<https://mft.nhs.uk/app/uploads/2023/07/C3-nephritic-factor.pdf>) – Mesangiocapillary glomerulonephritis (only if C3 is low) (referred test)
- Cardiac muscle antibodies (<https://mft.nhs.uk/app/uploads/2023/07/Cardiac-muscle-antibodies.pdf>) – Associated with Dressler's syndrome.
- Cardiolipin (IgG and IgM) antibodies (<https://mft.nhs.uk/app/uploads/2023/07/Cardiolipin-IgG-and-IgM-antibodies.pdf>) – Found in the anti-phospholipid syndrome, which may be primary or occur as a secondary complication of SLE. Raised levels are significantly associated with the presence of both venous and arterial thrombosis, thrombocytopenia and recurrent foetal loss.
- CD34 (Stem cells) (<https://mft.nhs.uk/app/uploads/2022/08/CD34-Stem-cells.pdf>)
- CD4 count (T cell count) (<https://mft.nhs.uk/app/uploads/2022/08/CD4-count-T-cell-count.pdf>) – (for patients with known HIV serology) The CD4 count is used to monitor disease progression in HIV infection. For example, patients with counts below 200 cells/ul are at risk of pneumocystis pneumonia and should receive antibiotic prophylaxis. CD4 counts are also used to assist decision making on anti-retroviral therapy. BHIVA publish guidelines on CD4 counts and their interpretation. www.aidsmap.com. Apart from HIV infection, the CD4 count can be reduced by acute and chronic stress, including infections and physical or psychological stress. CD4 counts are also affected by daily circadian rhythms and the menstrual cycle.
- CH50 complement activity Classical Pathway (<https://mft.nhs.uk/app/uploads/2024/02/CH50-complement-activity-Classical-Pathway.pdf>)
- Chronic lymphocytic/lymphoma panel (<https://mft.nhs.uk/app/uploads/2022/08/Chronic-lymphocytic-lymphoma-panel.pdf>) – Panel of markers used: CD3, CD5, CD19, CD23, CD79b, Kappa chains, Lambda chains, FMC7, CD38
- Coeliac Disease Antibodies (<https://mft.nhs.uk/app/uploads/2023/11/Coeliac-Disease-Antibodies.pdf>)
- Complement C3 (<https://mft.nhs.uk/app/uploads/2023/07/Complement-C3.pdf>)

- Complement C4 (<https://mft.nhs.uk/app/uploads/2023/06/Complement-C4.pdf>) – Useful in monitoring a wide range of inflammatory and autoimmune disorders. Single point determinations are of limited value and serial measurements are recommended.
- COVID 19 Antibodies (<https://mft.nhs.uk/app/uploads/2023/07/COVID-19-Antibodies.pdf>).
- Crithidia antibodies (<https://mft.nhs.uk/app/uploads/2023/07/Crithidia-antibodies.pdf>) – Used for the detection of antibodies that are specific for double-stranded DNA.
- Cryoglobulins (<https://mft.nhs.uk/app/uploads/2023/07/Cryoglobulins.pdf>) – Careful attention to specimen collection is required.
- Anti-Cyclic citrullinated peptide (CCP) (<https://mft.nhs.uk/app/uploads/2023/07/Anti-Cyclic-citrullinated-peptide-CCP.pdf>).

D

- Double Negative T Cell (DNT) panel (<https://mft.nhs.uk/app/uploads/2024/02/Double-Negative-T-cells.pdf>).
- Double stranded DNA antibodies (IgG) (<https://mft.nhs.uk/app/uploads/2023/08/Double-stranded-DNA-antibodies-IgG.pdf>) – The presence of autoantibodies to double-stranded DNA is strongly suggestive of SLE although they are detected in 40-60% of patients with this disease.

E

- EMA Binding Assay (HS Screen) (<https://mft.nhs.uk/app/uploads/2023/08/EMA-Binding-Assay-HS-Screen.pdf>) – A flow cytometric method is used which is useful in the diagnosis of Hereditary Spherocytosis (HS).
- ENA antibodies (<https://mft.nhs.uk/app/uploads/2023/06/Antinuclear-antibody-ANA.pdf>) includes: Ro (SS-A 52, SSA-60), La (SS-B), Sm, Sm/RNP, RNP (RNP A, RNP 68), Ribo P, Chromatin and Jo-1, and Scl-70 – Antibodies to extractable nuclear antigens are of use in the classification of clinical subsets of connective tissue disorders and in providing prognostic information.

F

- Farmer's lung precipitins (<https://mft.nhs.uk/app/uploads/2023/08/Farmers-lung-precipitins.pdf>) – These tests detect the presence of IgG antibodies to Micropolysporium Faeni (Farmer's lung precipitins).
- Free Light Chains (<https://mft.nhs.uk/app/uploads/2023/08/Free-Light-Chains.pdf>) – Myeloma diagnostic

G

- GABAb receptor & AMPA receptor 1/2 antibodies (<https://mft.nhs.uk/app/uploads/2020/01/GABAb-receptor-AMPA-receptor-1-2-antibodies.pdf>)
- Ganglioside Abs GM1 (<https://mft.nhs.uk/app/uploads/2023/08/Ganglioside-Abs-GM1.pdf>) – Guillian-barre syndrome, demyelinating polyneuropathy, multifocal motor neuropathy (referred test)
- Ganglioside Abs GQ1b (<https://mft.nhs.uk/app/uploads/2023/08/Ganglioside-Abs-GQ1b.pdf>) – Miller-Fisher syndrome (referred test)
- Glomerular basement membrane antibodies (<https://mft.nhs.uk/app/uploads/2023/08/Glomerular-basement-membrane-antibodies.pdf>) – Diagnostic test for Goodpasture's syndrome
- Glutamic Acid Decarboxylase Antibodies (<https://mft.nhs.uk/app/uploads/2023/07/Glutamic-Acid-Decarboxylase-Antibodies.pdf>) – IDDM, Stiff-man syndrome

H

- Histone Abs (<https://mft.nhs.uk/app/uploads/2023/08/Histone-Abs.pdf>) – Drug-induced SLE, Positive in RA/SLE etc (referred test)

I

- IA2 (<https://mft.nhs.uk/app/uploads/2023/07/IA2.pdf>).
- IgE (Total) (<https://mft.nhs.uk/app/uploads/2023/08/IgE-Total.pdf>).
- IgG subclasses (<https://mft.nhs.uk/app/uploads/2023/08/IgG-subclasses.pdf>) – IgG1,2,3,4
- Immunodeficiency (T&B Lymphocyte Subsets)
(<https://mft.nhs.uk/app/uploads/2023/08/Immunodeficiency-TB-Lymphocyte-Subsets.pdf>) –
(Contact on 0161 276 6440 to discuss)
- Immunoglobulins (IgG, IgA, IgM)
(<https://mft.nhs.uk/app/uploads/2022/08/Immunoglobulins-IgG-IgA-IgM.pdf>) – IgA: raised in elderly, chronic infection, cirrhotic liver disease. IgM: raised primary biliary cirrhosis, acute infection, EBV, CMV, TB. Marked polyclonal IgG elevation is seen in HIV, viral and autoimmune hepatitis, Sjögren's and sarcoidosis. Less marked elevation in chronic inflammatory and infective conditions.
- Immunoglobulin D IgD (<https://mft.nhs.uk/app/uploads/2023/08/Immunoglobulin-D-IgD.pdf>) – Familial Mediterranean fever (referred test)
- Insulin Antibodies (<https://mft.nhs.uk/app/uploads/2023/10/Insulin-Antibodies.pdf>) –
Insulin resistance (referred test)

L

- L-Selectin Shedding assay (<https://mft.nhs.uk/app/uploads/2024/02/L-Selectin-Shedding-assay.pdf>).
- Leukocyte Adhesion Deficiency (LAD) Markers
(<https://mft.nhs.uk/app/uploads/2023/11/Leukocyte-Adhesion-Deficiency-LAD-Markers.pdf>).

M

- Mannose Binding Lectins (<https://mft.nhs.uk/app/uploads/2023/10/Mannose-Binding-Lectins.pdf>) – Recurrent infection in childhood (referred test)
- Mast Cell Tryptase (<https://mft.nhs.uk/app/uploads/2023/10/Mast-Cell-Tryptase.pdf>)
- Muscle Specific Tyrosine Kinase (MUSK)
(<https://mft.nhs.uk/app/uploads/2023/10/Muscle-Specific-Tyrosine-Kinase-MUSK.pdf>) (referred test)
- Myelin Associated Glycoprotein (MAG)
(<https://mft.nhs.uk/app/uploads/2023/10/Myelin-Associated-Glycoprotein-MAG.pdf>) – IgM monoclonal neuropathy (referred test)
- Myeloperoxidase (MPO) antibodies
(<https://mft.nhs.uk/app/uploads/2023/10/Myeloperoxidase-MPO-antibodies.pdf>) – Autoantibodies to myeloperoxidase are found in the sera of patients with various types of systemic vasculitis, including (idiopathic crescentic glomerulonephritis), Churg-Strauss syndrome, microscopic polyangiitis and polyarthritis nodosa
- Myositis Antibodies (<https://mft.nhs.uk/app/uploads/2023/10/Myositis-Antibodies.pdf>)

N

- Naïve Memory and Effector T Cell Subsets
(<https://mft.nhs.uk/app/uploads/2024/02/Naive-Memory-and-Effector-T-Cell-Subsets.pdf>)
- Neutrophil Function (DHR) (<https://mft.nhs.uk/app/uploads/2024/02/Neutrophil-Function-DHR-Test.pdf>)
- NMDA – N-methyl-D-aspartate receptor antibodies
(<https://mft.nhs.uk/app/uploads/2022/08/NMDA—N-methyl-D-aspartate-receptor-antibodies.pdf>) (referred test)

O

- Ovary antibodies (<https://mft.nhs.uk/app/uploads/2023/10/Ovary-antibodies.pdf>) – Autoantibodies to the ovary may interfere with fertility by masking functional proteins on the cell surface of ovaries and interfering with intracellular protein functions.

P

- Paraneoplastic Antibodies (<https://mft.nhs.uk/app/uploads/2023/10/Paraneoplastic-Neuronal-Antibodies.pdf>)(Hu, Yo, Ri)
- PLA2R Antibodies (<https://mft.nhs.uk/app/uploads/2020/01/PLA2R-Antibodies.pdf>) (referred test)
- Platelet Glycoprotein Expression (<https://mft.nhs.uk/app/uploads/2022/08/Platelet-Glycoprotein-Expression.pdf>) – A flow cytometric method that is useful in the diagnosis of two hereditary platelet disorders, Bernard-Soulier syndrome and Glanzmann's thrombasthenia.
- PR3 autoantibodies (cANCA) (<https://mft.nhs.uk/app/uploads/2023/10/PR3-autoantibodies-cANCA.pdf>) – c-ANCAs are directed to proteinase 3 and are typically associated with Wegener's granulomatosis.

R

- Rheumatoid factor (<https://mft.nhs.uk/app/uploads/2023/10/Rheumatoid-factor.pdf>)

S

- Serum Protein Electrophoresis (<https://mft.nhs.uk/app/uploads/2023/10/Serum-Protein-Electrophoresis-PPC.pdf>) – Additional information is provided under Serum Protein Electrophoresis and Bence Jones protein (urine immunofixation).
- Serum Protein Electrophoresis (<https://mft.nhs.uk/app/uploads/2023/10/Serum-Protein-Electrophoresis-PPC.pdf>) – (see IgG, IgA, IgM electrophoresis)
- Skin antibodies (<https://mft.nhs.uk/app/uploads/2023/10/Skin-antibodies.pdf>) – Two types of skin autoantibodies that detect different skin components are recognised: Intercellular cement substance (Pemphigus antibodies). Basement membrane antibodies (Pemphigoid antibodies)
- Smooth muscle mitochondrial antibodies (<https://mft.nhs.uk/app/uploads/2023/11/Smooth-muscle-mitochondrial-antibodies-002.pdf>) – Including liver kidney microsomal (LKM), gastric parietal cell (GPC). Smooth muscle antibodies at a high titre are associated with chronic active hepatitis, and at low titres are more likely to be triggered by infection. Mitochondrial antibodies are associated with primary biliary cirrhosis.

T

- T&B Lymphocyte Subsets (<https://mft.nhs.uk/app/uploads/2022/08/Immunodeficiency-TB-Lymphocyte-Subsets.pdf>) – (Contact on 0161 276 6440 to discuss)
- TB Gamma Interferon Release Assay (Quantiferon) (<https://mft.nhs.uk/app/uploads/2022/08/TB-Gamma-Interferon-Release-Assay-Quantiferon.pdf>)
- T Cell Activation Panel (<https://mft.nhs.uk/app/uploads/2022/08/T-Cell-Activation-Panel.pdf>)
- Testis antibodies (<https://mft.nhs.uk/app/uploads/2023/10/Testis-antibodies.pdf>)
- Therapeutic Drug Monitoring of anti-TNF therapies Infliximab and Adalimumab (<https://mft.nhs.uk/app/uploads/2023/10/Therapeutic-Drug-Monitoring-of-anti-TNF-therapies-Infliximab-and-Adalimumab.pdf>)
- TSH Receptor Antibodies (<https://mft.nhs.uk/app/uploads/2023/10/TSH-Receptor-Antibodies.pdf>) – Thyroid disorders/pregnancy/Graves disease. Risk of post-partum or neonatal thyroid dysfunction

V

- Voltage-Gated Calcium Channel Antibodies
(<https://mft.nhs.uk/app/uploads/2023/10/Voltage-Gated-Calcium-Channel-Antibodies.pdf>).
(referred test)
- Voltage-Gated Potassium Channel Antibodies
(<https://mft.nhs.uk/app/uploads/2023/10/Voltage-Gated-Potassium-Channel-Antibodies.pdf>).
(referred test)

Z

- Zinc Transporter 8 (ZnT8) antibodies (<https://mft.nhs.uk/app/uploads/2023/07/Zinc-Transporter-8-antibodies.pdf>).

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