Datasheet for ABIN996884

Rheumatoid Factor ELISA Kit

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Overview

Quantity:	96 tests
Target:	Rheumatoid Factor (RF)
Method Type:	Competition ELISA
Application:	ELISA

Product Details

Purpose:	Rheumatoid Factor (RF) Enzyme-Linked Immunosorbent Assay(ELISA) is intended for the detection of IgM antibodies in human serum to RF antigen and as an aid in the diagnosis of rheumatoid arthritis.
Analytical Method:	Qualitative
Detection Method:	Colorimetric
Specificity:	98.7%
Sensitivity:	100%

Target Details

Target:	Rheumatoid Factor (RF)
Abstract:	RF Products
Background:	Rheumatoid arthritis (RA) is a chronic inflammatory disease of unknown etiology. Rheumatoid arthritis is a systemic disease characterized by chronic proliferation and inflammation of joint cartilage and supporting structures. RA is mainly defined by clinical criteria, in which systematic pathogenetic studies have been hampered by doubts about the presence of common

pathogenetic mechanisms and the relative lack of unique laboratory findings. IgG rheumatoid factor has been reported to be present in sera of patients with rheumatoid arthritis both with and without IgM rheumatoid factor activity. RFs are immunoglobulins of any isotype with antibody activity directed against antigenic sites on the Fc portion of IgG molecules. Because of its pentavalent structure and ability to cross-link immunoglobulin G antigen, IgM-RF is the main isotype identified by clinically available diagnostic assays for RF detection. Rheumatoid factors may exist as the mu, gamma, alpha, and epsilon isotypes. Rheumatoid factors are found in 1 to 4% of the general population. RFs are present in 75% of adult patients with the highest incidence of rheumatoid factors occurring in persons over 65 years of age and nearly all patients with Felty and Sjogren syndrome. The clinical correlation of an elevated rheumatoid factor should be interpreted cautiously. Increased titers may accompany a variety of acute immune responses, particularly viral infections and a number of other diseases (e.g., infectious mononucleosis, tuberculosis, leprosy, various parasitic diseases, liver disease, sarcoidosis, and lymphoproliferative syndromes).

The earliest tests and those still most widely used rely on the agglutinating properties of the IgM class of rheumatoid factors. Sensitized sheep red blood cell and latex agglutination tests have been developed and routinely employed. These assays are most sensitive for the detection of RF that is of the IgM isotype because of its multivalent structure. These tests provide a dilution which is difficult to standardize and have laborious processing and poor reproducibility. Enzyme immunoassays are more sensitive than agglutination and very specific due to use of purified antigen. Principle of the Assay The DAI Rheumatoid Factor test uses the ELISA technique for the detection of IgM antibodies to IgG antigen. The purified antigen is bound to a solid phase microassay well. Patient serum samples to be assayed for antibody are first diluted and added to each well. If antibody is present in the patient's serum, antigen-antibody complexes are formed. After washing the unbound serum from the well, horseradish peroxidase conjugated anti-human IgM is added to the wells and allowed to incubate. The conjugate will bind to human antibody which is present. After washing the unbound conjugate from the wells, TMB substrate solution is added and incubated. The enzyme conjugate present will react with the H2O2 substrate and tetramethylbenzidine (TMB) chromogen, resulting in blue color development. The addition of 1N H 2 2SO 4 stops the enzymatic reaction and turns the blue color to yellow. The absorbance of the solution, measured at 450 nm, is directly related to the concentration of IgM antibody bound to the well.

Application Details

Sample Volume:	10 µL
Assay Time:	1 - 2 h
Plate:	Pre-coated
Restrictions:	For Research Use only

Handling

Storage:	4 °C
Expiry Date:	12 months