Datasheet for ABIN1305201

VZV IgG ELISA Kit

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Overview

Quantity:	96 tests
Target:	VZV IgG
Reactivity:	Human
Method Type:	Sandwich ELISA
Detection Range:	0.25-23.0 IU/mL
Minimum Detection Limit:	0.25 IU/mL
Application:	ELISA

Product Details

Purpose:	This ELISA is a quantitative enzyme immunoassay for the determination of the titer of human antibody (specifically for IgG subtype) against Varicella-Zoster Virus in human specimen. Specifically, this test is useful in screening patient serum or plasma samples with extremely high titer of human anti-VZV-IgG antibody.
Brand:	ED™
Sample Type:	Serum, Plasma
Analytical Method:	Quantitative
Detection Method:	Colorimetric
Specificity:	This ELISA is exclusively measuring the human anti-VZV-IgG antibody. There is not detectable cross-reaction to other human antibodies, such as anti-hepatitis A virus antibody, etc.
Characteristics:	This ED™ VZV-IgG ELISA kit is designed, developed and produced for the quantitative determination of relatively high titer of human anti-VZV-IgG. The antibody titer of this test are

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	reported as kilo unit per milliliter (IU/mL).
Components:	1. VZV Antigen Coated Microplate One bottle contains 30 mL of 30-fold concentrate. Before use the contents must be diluted with 870 mL of distilled water and mixed well. Upon dilution this yields a working wash solution containing a surfactant in phosphate buffered saline with a non-azide preservative. The diluted wash buffer should be stored at room temperature and is stable until the expiration date on the kit box.
Material not included:	1. Precision single channel pipettes capable of delivering 15 µL, 50 µL, 100 µL, 200 to 1000 µL variable pipette. 2. Repeating dispenser suitable for delivering 100 µL. 3. Disposable pipette tips suitable for above volume dispensing. 4. Disposable 12 x 75 mm glass or plastic tubes. 5. Disposable plastic 1000 mL bottle with caps. 6. Aluminum foil. 7. Plastic microtiter well cover or polyethylene film. 8. ELISA multichannel wash bottle or automatic (semi-automatic) washing system. 9. Spectrophotometric microplate reader capable of reading absorbance at 450 nm.

Target Details

Target:	VZV IgG
Abstract:	VZV IgG Products
Target Type:	Antibody, Antibody
Background:	Varicella-Zoster Virus (VZV) is one of eight herpes viruses known to infect humans and is the etiologic agent of chicken-pox (Varicella) in children and both shingles (Zoster) and post therapeutic neuralgia in adults. Primary VZV infection results in chicken-pox, which may rarely result in complications including encephalitis or pneumonia. Even when clinical symptoms of chicken-pox have resolved, VZV remains dormant in the nervous system of the infected person, in the trigeminal and dorsal root ganglia. In about 10 20 % of cases, VZV reactivates later in life resulting in shingles. Serious complications of shingles include postherpetic neuralgia, zoster multiplex, myelitis, herpes ophthalmicus, or zoster sine herpete. Shingles is more common in people with weakened immune systems from human immunodeficiency virus (HIV) infection, chemotherapy or radiation treatment, transplant operations and stress. In some of the above conditions, the infection of VZV may cause severe or fetal disease in patients receiving immunosuppressive therapy or may cause abnormalities in cell mediated immune response.

Target Details

	The presence of serum antibody to VZV has been shown to correlate with immunity to varicella. Determination of immune status to varicella is important for hospital personnel in contact with immunocompromised patients. An attenuated live VZV vaccine has been licensed in North America for individuals with non-immunocompromised disease. It is also necessary to determine the immune status of patients and evaluate their eligibility prior to administering the vaccine.

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Assay Time:	4 h
Plate:	Pre-coated
Protocol:	The quantitative VZV antibody (IgG) ELISA is a solid phase direct immunoassay to detect IgG antibody against VZV. Microwells are coated with VZV multiple epitope antigens. Assay standards, controls and diluted unknown serum or plasma specimens are added to the microwells. After an incubation period, the unbound antibody is washed away, and a Horseradish Peroxidase (HRP)-conjugatedrabbit anti-human IgG is added to each well. The immunocomplex of well bound VZV antigen human anti-VZV-IgG antibody HRP-conjugated anti-human IgG will be formed. The unbound enzyme conjugates will be washed away and then the chromogen substrate solution containing hydrogen peroxide is added to all the wells. A blue color is developed with the color intensity in proportion to the amount of anti-VZV IgG antibody in the specimens. The enzyme-substrate reaction is stopped by the addition of sulfuric acid. The absorbance of assay standards, controls and unknown specimens are determined by an EIA plate reader with wavelength set at 450 nm.
Reagent Preparation:	(1) Prior to use allow all reagents to come to room temperature. Reagents from different kit lot numbers should not be combined or interchanged. (2) ELISA Wash Concentrate must be diluted to working solution prior use. Please see REAGENTS section for details. (3) VZV Assay Buffer Concentrate must be diluted to working solution prior use. Please see REAGENTS section for details
Sample Collection:	Either serum or plasma can be used in this test. No special preparation of individual is necessary prior to specimen collection. Whole blood should be collected by venipuncture and must be allowed to clot for a minimum 30 minutes at room temperature before the serum is separated by centrifugation (850 ? 1500xg for 10 minutes). The serum should be separated from the clot within two hours of blood collection and transferred to a clean test tube. Serum samples should be stored at 2 - 8 C if the assay is to be performed within 24 hours. Otherwise,

	patient samples should be stored at -20 °C or below until measurement. Avoid any repeated freezing and thawing of specimen. Grossly hemolytic, lipidic or turbid samples may interfere test results and should not be used.
Assay Procedure:	(1) Place a sufficient number of VZV antigen-coated microwell strips in a holder to run assay controls and unknown samples in duplicate. (2) Test Configuration (3) Dilute each unknown specimen in 1:3,600 before the specimen being assayed. It is suggested to do a two-step dilution for each specimen. For example, one can mix 885 µL of assay buffer with 15 µL of unknown specimen in a clean tube (D1) and further mix 885 µL of assay buffer with 15 µL of the prediluted specimen from D1 (D2). The diluted sample (D2) is ready to be measured in the following assay procedures. (4) Add 100 µL of assay calibrators, controls and the diluted unknown specimens into respective wells. (5) Incubate the plate at 37 C for 30 min. (6) Wash each well 4 times by dispensing 350 µL of working wash solution into each well and then completely aspirating the contents. Alternatively, an automated microplate washer can be used. (7) Prepare VZV Tracer Antibody Working Solution by 1:21 fold dilution of the tracer antibody with the Tracer Antibody Diluent . For each strip, it is required to mix 1 mLof Tracer Antibody Diluent with 50 µL of Tracer Antibody in a clean test tube. (8) Add 100 µL of above diluted VZV Tracer Antibody Working Solution to each well. (9) Incubate the plate at 37 C for 30 min. (10) Wash each well 4 times by dispensing 350 µL of working wash solution into each well and then completely aspirating the contents. Alternatively, an automated microplate washer can be used. (11) Add 100 µL of ELISA HRP Substrate into each of the wells. (12) Cover the plate with an aluminum foil to avoid exposure to light. (13) Incubate plate at room temperature (22 ? 25 C in automated system) and static for 30 minutes. (14) Remove the aluminum foil and plate sealer. Add 100 µL of ELISA Stop Solution into each of the wells. Mix gently. (15) Read the absorbance at 450/650 nm within 10 minutes in a microplate reader.
Calculation of Results:	This kit contains liquid and ready to use assay calibrators with a unit of measurement per milliliter (IU/mL). 1. Calculate the average absorbance for each pair of duplicate test results. 2. Subtract the average absorbance of the calibrator 1 (0 IU/mL) from the average absorbance of all other readings to obtain corrected absorbance. 3. The calibrator curve is generated by the corrected absorbance of all calibrator levels on the

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	ordinate against the calibrator concentration on the abscissa using point-to-point or log-log paper. Appropriate computer assisted data reduction programs may also be used for the calculation of results. The VZV-IgG antibody concentrations for the controls and unknown samples are read directly from the calibration curve using their respective corrected absorbance. If log-log graphic paper or computer assisted data reduction program utilizing logarithmic transformation are used, sample having corrected absorbance between the 1.3 IU/mL calibrator and the next highest calibrator should be calculated by the formula: Corrected absorbance (unknown) Value of unknown = x Value of the 2nd CAL Corrected Absorbance (2nd calibrator)
Assay Precision:	The intra-assay precision is validated by measuring two control samples in a single assay with 8-replicate determinations. The inter-assay precision is validated by measuring two control samples in duplicate in 5 individual assays.
Restrictions:	For Research Use only

Handling

Precaution of Use:	The reagents must be used in a research laboratory and are for research use only. The source material for reagents containing bovine serum was derived in the contiguous 48 United States. It was obtained only from healthy donor animals maintained under veterinary supervision and found free of contagious diseases. Wear gloves while performing this assay and handle these reagents as if they are potentially infectious. Avoid contact with reagents containing TMB, hydrogen peroxide, or sulfuric acid. TMB may cause irritation to skin and mucous membranes and cause an allergic skin reaction. TMB is a suspected carcinogen. Sulfuric acid may cause severe irritation on contact with skin. Do not get in eyes, on skin, or on clothing. Do not ingest or inhale fumes. Upon contact, flush with copious amounts of water for at least 15 minutes. Use Good Laboratory Practices.
Storage:	4 °C