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# IMTEC-PHOSPHATIDYLSERINE-ANTIBODIES SCREEN

PS Screen

ELISA for the Quantitative Determination of Anti-Phosphatidylserine Antibodies (Ig(GAM))

Package Size

**[REF]** ITC59027 96 Tests Complete Testkit  
**[IVD]**

Please read the instructions carefully before testing.

Procedural precautions:

Do not use the reagents beyond the date of expiry.

**[DIL]** DB01, **[WASH]** **[20x]** WB06, **[SUB]** TMB ELISA and **[STOP]** STOP ELISA may be interchanged between lots and test kits that share the same reagent designation.

All other reagents are specific for the individual test kit lot and must not be interchanged with other lots and test kits.

Store reagents at 2...8°C.

## Intended Use

IMTEC-Phosphatidylserine-Antibodies Screen is an indirect solid-phase enzyme immunoassay (ELISA) for the quantitative measurement of IgG, IgM and IgA class autoantibodies against phosphatidylserine/beta-2-glycoprotein I in human serum. The assay is intended for in vitro diagnostic use only as an aid in the diagnosis of the antiphospholipid syndrome.

Anti-phosphatidylserine antibodies (aPs) are important for the diagnosis of the antiphospholipid syndrome (APS). Although aPs is not part of the diagnostic criteria for the disease defined in an international consensus conference (Sapporo, 1998), some investigators consider them more specific for APS than anti-cardiolipin antibodies (aCL).

aPs correlate better with lupus anticoagulant (LA) and are less frequently detectable in infectious diseases than aCL. The antibodies are detectable in aCL-negative SLE-sera too (important!).

Indications:

- Suspicion of antiphospholipid syndrome (APS) without detectable aCL.
- Risk assessment for thrombophilia and spontaneous abortion in risk groups (especially SLE)

## Principle

The test is based on the immobilisation of phosphatidylserine and purified human beta-2-glycoprotein I to the solid phase of microtiter strips and subsequent binding of anti-phosphatidylserine antibodies from patient serum.

The bound antibodies are detected with a peroxidase-labelled secondary antibodies that are directed against human IgG, IgM and IgA. After addition of substrate solution, a colour appears which intensity is proportional to the concentration and/or the avidity of the detected antibodies. Following the addition of stop solution, the colour switches from blue to yellow.

## Reagents and Contents

<b>[MTP]</b>	12	<b>Microtiter Strips</b> (in 1 strip holder) 8-well snap-off strips, ready for use coated with phosphatidylserine and purified human beta-2-glycoprotein I
<b>[CAL]</b>	1 – 5 5 x 1.5 ml	<b>Calibrators IgGAM</b> (white cap), human serum, inked according to concentration, ready for use anti-phosphatidylserine level: 6.25 U/ml (1), 12.5 U/ml (2), 25 U/ml (3), 50 U/ml (4), 100 U/ml (5)
<b>[NC]</b>	1.5 ml	<b>Negative Control Serum</b> (green cap), human, ready for use
<b>[PC]</b>	1.5 ml	<b>Positive Control Serum</b> (red cap), human, ready for use Concentrations are stated on the labels.
<b>[WASH]</b> <b>[20x]</b> WB06	50 ml	<b>Washing Buffer</b> (black cap) Concentrate (20x) for 1 l TRIS buffer pH 6.9 ± 0.2

<b>[DIL]</b> DB01	100 ml	<b>Dilution Buffer</b> (blue cap) ready for use Phosphate buffer pH 7.3 ± 0.2
<b>[CON]</b>	15 ml	<b>Conjugate Solution</b> (white cap) anti-human-IgGAM HRP conjugate, ready for use
<b>[SUB]</b> TMB ELISA	15 ml	<b>TMB solution</b> (black cap) ready for use, colourless to bluish 3,3', 5,5'-tetramethylbenzidin Hydrogen peroxide 1.2 mmol/l 3 mmol/l pH 3.7 ± 0.2
<b>[STOP]</b> STOP ELISA	15 ml	<b>Stop Solution</b> (red cap) Sulphuric acid, ready for use 0.5 mol/l
	1	<b>Adhesive Strip</b>

## Safety Notes

Do not swallow the reagents. Avoid contact with eyes, skin and mucous membranes. All patient specimens and controls should be handled as potentially infectious. The controls have been checked on donor level for HCV and HIV-1/2 antibodies and HBsAg and found negative. Wear protective clothing and disposable gloves according to Good Laboratory Practices.

All materials contaminated with patient specimens or controls should be inactivated by validated procedures (autoclaving or chemical treatment) in accordance with applicable regulations.

## Stability

The reagents are stable up to the stated expiry dates on the individual labels when stored at 2...8°C.

## Reagent Preparation

**Allow the testkit and all its components to reach room temperature before use!** Used bottles should be closed carefully and stored at 2...8°C. Store **[SUB]** protected from light.

Do not use polystyrene vessels for handling of **[CON]**.

To avoid potential microbial and/or chemical contamination, unused reagents should never be transferred into the original vials.

## Washing Buffer Solution **[WASH]**

Any crystallised salt inside the bottle must be resolved before use. Dilute 1 part **[WASH]** **[20x]** with 19 parts distilled water. **[WASH]** is stable for 6 weeks stored at 2...8°C.

## Specimen

Patient Sera

Use samples freshly collected or freeze samples at -20°C. **Freeze and thaw once only.** Do not use serum samples inactivated by heat treatment at 56°C.

Allow the samples to reach room temperature (30 min..)

Dilute samples 1:101 with **[DIL]** (add 10 µl sample to 1 ml **[DIL]**).

## Procedure

- Pipette **100 µl** of **diluted patient sample**, **[CAL]**, **[PC]** and **[NC]** into **[MTP]**, for blank use **[DIL]** instead of sample dilution, seal **[MTP]** with adhesive strip.
- Incubate for **1 hour** at RT.
- Discard the solution from **[MTP]**. Wash **[MTP]** 3 times using 300 µl **[WASH]** per well.
- Discard **[WASH]** and knock out residues on an absorbent paper or cloth.
- **Pipette 100 µl** **[CON]** and seal **[MTP]** with adhesive strip.
- Incubate for **30 min.** at RT.
- Discard the solution from **[MTP]**. Wash **[MTP]** 3 times using 300 µl **[WASH]** per well.
- Discard **[WASH]** and knock out residues on an absorbent paper or cloth.
- **Pipette 100 µl** **[SUB]** and incubate for **10 min.** At room temperatures above 25°C the substrate incubation could be shortened, but should never fall short of 5 min..
- **Add 100 µl** **[STOP]** per well.
- Read absorbance values at 450 nm within the next 10 min. after stopping. Bi-chromatic measurement with a reference wavelength at 620 – 690 nm is recommended.

## Automation

The IMTEC-Phosphatidylserine-Antibodies Screen ELISA may be processed with suitable automated ELISA analyzers. Applications have to be validated prior to diagnostic use.

## Validation of the test

The test results are valid provided the following criteria are met for the obtained results:

- **PC** is within the indicated range (see label).
- **NC** is lower than the cut-off-value of the test.
- **CAL****5** does not fall below an absorbance value of 0.6.
- The absorbances of **CAL****1-5** keep raising.

In order to improve accuracy of the test results we recommend to run **CAL****1-5**, **PC**, **NC** and patient samples in duplicate.

## Interpretation of Results

Plot the measured absorbances against units of **CAL****1-5** in semi-log. By interpolating the plotted measuring points, a calibration curve is obtained, from which the concentrations of anti-phosphatidylserine antibodies in the patient samples can be determined.

Results above 15 U/ml (cut-off value) for anti-phosphatidylserine antibodies are considered positive.

## Limitations

A positive result must be used in association with clinical evaluation and diagnostic procedures. The values obtained from this assay are intended to be an aid for diagnosis only.

Elevated anti-phosphatidylserine antibodies may occur in individuals with no evidence of clinical disease.

If the patient sample contains elevated levels of immune complexes or other immunoglobulin aggregates, false positive results by non-specific binding cannot be ruled out.

## Performance Characteristics

Typical performance data can be found in the Verification Report, accessible via:

[www.human.de/data/gb/vr/el-59027.pdf](http://www.human.de/data/gb/vr/el-59027.pdf) or

[www.human-de.com/data/gb/vr/el-59027.pdf](http://www.human-de.com/data/gb/vr/el-59027.pdf)

If the performance data are not accessible via internet, they can be obtained free of charge from your local distributor.

## Safety Notes

### **STOP** Warning

#### • Hazard statements

H315 Causes skin irritation.

H319 Causes serious eye irritation.

### **SUB** Danger

#### • Hazard statements

H360D May damage the unborn child.

#### • Precautionary statements

**CAL** **NC** **PC** **WASH****20x** **DIL** **CON** **SUB** **STOP**

P234 Keep only in original container.

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P262 Do not get in eyes, on skin, or on clothing.

P281 Use personal protective equipment as required.

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P337+P313 If eye irritation persists: Get medical advice/attention.

P401 Store in accordance with local/regional/national/international regulations.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

## References

1. Conrad K. *et al.*, Autoantibodies in Systemic Autoimmune Diseases – A Diagnostic Reference; Pabst Science Publishers, Lengerich, Berlin, Riga, Rom, Viernheim, Wien, Zagreb, 2002
2. Wilson A.W. *et al.*, Arthritis Rheum. **42**, 1309-1311 (1999)

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**Human**