Autoimmune DX

Antiphospholipid Syndrome

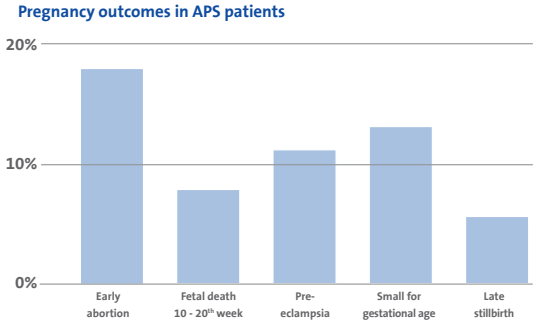
A frequent cause for recurrent fetal loss

What is APS?

Antiphospholipid syndrome (APS) is a systemic autoimmune condition that is characterized by moderate to high titers of autoantibodies against phospholipids (aPL) and phospholipid-binding proteins. The risk for arterial, venous or small vessel thrombosis, thrombocytopenia and fetal loss is strongly increased in APS patients. APS is often associated with recurrent miscarriages and pregnancy complications including fetal growth retardation and pre-eclampsia.[1,2]

52% of COVID-19 patients show aPL antibodies

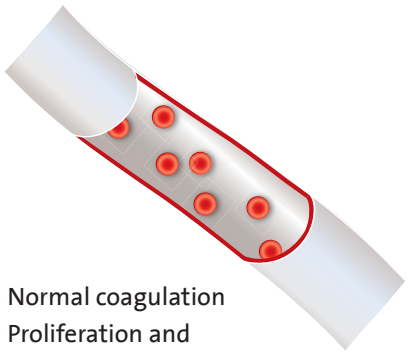
APS is diagnosed in ~15% of women with recurrent miscarriage



Pregnant European APS patients under the age of 35 years suffer mostly from early abortion (18.1%) and infants being small for their stational age (14.2%).
The risk for pre-eclampsia, fetal death and late stillbirth is significantly higher and happens to about 11.1%, 7.2% and 5.7% respectively, of pregnant APS patients.[3]

The risk of thrombosis is three times higher in APS patients[4]

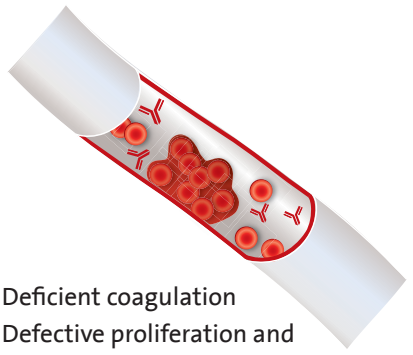
Healthy pregnant woman
No risk of thrombosis



- Normal coagulation
- Proliferation and differentiation of trophoblast

Healthy fetus

Pregnant woman with APS
High risk of thrombosis



- Deficient coagulation
- Defective proliferation and differentiation of trophoblast

Growth retardation and intra-uterine death

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Antiphospholipid Syndrome

In which cases is antiphospholipid auto-antibody testing recommended?

- Recurrent miscarriages/stillbirth/severe pre-eclampsia
- History of systemic lupus erythematosus (SLE) or other autoimmune diseases
- Presence of livedo reticularis
- Prolonged activated partial thromboplastin time (aPTT) prior to starting anticoagulation
- Recurrent thrombosis
- Venous thromboembolism at unusual sites
- History of arterial thrombosis without clear risk factors
- Thrombocytopenia
- Cardiac valve abnormalities in the absence of other explanations

COVID-19 patients have a risk to develop aPL antibodies[5]

APS in COVID-19 patients can be triggered through several mechanisms, for example, molecular mimicry of the SARS-CoV-2 with beta2-glycoprotein (ß2GPI), which leads to the production of autoantibodies such as anti-ß2GPI antibodies.[6, 7]

Ordering information

Name	Format	REF
Phospholipid-Antibodies Screen	IgG/IgM	ITC59070
Cardiolipin-Antibodies Screen	IgG/IgA/IgM	ITC59076
Cardiolipin-Antibodies Combi	IgG/IgM	ITC59082
Cardiolipin-Antibodies IgG	IgG	ITC59071
Cardiolipin-Antibodies IgM	IgM	ITC59081
Phosphatidylserine-Antibodies Screen	IgG/IgA/IgM	ITC59027
Phosphatidylserine-Antibodies IgG	IgG	ITC59011
Phosphatidylserine-Antibodies IgM	IgM	ITC59021
Phosphatidylethanolamine-Antibodies Screen	IgG/IgA/IgM	ITC59400
beta2-Glycoprotein 1-Antibodies Screen	IgG/IgA/IgM	ITC59050
beta2-Glycoprotein 1-Antibodies IgG	IgG	ITC59150
beta2-Glycoprotein 1-Antibodies IgM	IgG	ITC59250
Prothrombin-Antibodies Screen	IgG/IgA/IgM	ITC59450
Annexin V-Antibodies Screen	IgG/IgA/IgM	ITC59550

References

1. Luzzana et al., J Nephrol., 2002, 15 (4), 342-348
2. Tong et al., Hum Reprod. Update, 2015, 21 (1), 97-118
3. Cochery-Nouvellon et al., Haematologica, 2017, 102(5), 835-842
4. Liu L., Sun D., Medicine, 2019, 98(20), e15733
5. Zuo et al., Sci Transl Med., 2020, 12 (570), eabd3876
6. Gharavi AE, Pierangeli SS, Lupus., 1998, 7, Suppl 2, 52-54
7. Tung et al., Rheumatol Adv Pract., 2021, 5 (1), rkaa081

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