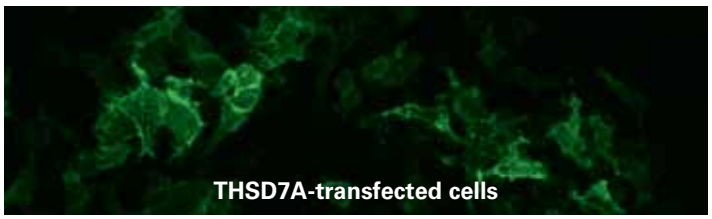
Anti-THSD7A IIFT



- **Maximal specificity for primary membranous nephropathy (MN)**
- **Ideal supplement to the Anti-PLA_2R IIFT for the differentiation between primary and secondary MN**
- **Increases the serological detection rate in non-invasive, serological diagnostics of primary MN**

Technical data

Antigen substrate	Transfected cells and control-transfected cells (EU 90)
Sample material	Serum or plasma
Sample dilution	Qualitative 1:10; semiquantitative: 1:10, 1:100, 1:1000 etc.
Reagents	Ready for use, with the exception of the PBS Tween buffer
Test procedure	30 min (sample) / 30 min (conjugate), room temperature
Microscopy	Objective: 20x; light source: EUROIMMUN LED, EUROStar Bluelight or mercury vapour lamp, 100 W, Excitation filter: 450-490 nm, colour separator: 510 nm, blocking filter: 515 nm
Stability	18 months from the date of manufacture when stored at +2 °C to +8 °C
Test kit format	10 slides, each containing 3 or 5 test fields
Order no.	**FA 1254-####-51 G**

Clinical significance

Primary membranous nephropathy (MN) is a chronic inflammatory disease of the glomeruli, which is accompanied by an increasing restriction of the kidney function. The underlying autoimmune mechanism is based on the reaction of autoantibodies directed against the glycoproteins phospholipase A_2 receptor (PLA_2R) and thrombospondin type-1 domain-containing protein 7A (THSD7A). These transmembrane proteins are expressed on the surface of podocytes in human glomeruli. As a result of the binding of antibodies, the podocytes are damaged and protein enters the primary urine (proteinuria). MN is the most frequent kidney disorder with nephrotic syndrome in adults. The disease is prevalent in all ethnic groups and genders, with Caucasian men over 40 years of age being more frequently affected. In young women with suspected primary MN, lupus nephritis should also be considered. Primary MN occurs very rarely in children. The primary form should be discriminated from the secondary form, which is a secondary disease that can occur in infections, in drug therapy or abuse or intake of toxins, in collagenoses and other autoimmune diseases and in tumours, and which improves with treatment of the underlying disease. The treatment of primary MN improves prognosis, particularly with respect to nephrotic syndrome and hypertonicity. It is known since 2014 that circulating autoantibodies against THSD7A are mainly detected in patients with primary MN who are negative for anti-PLA_2R antibodies. In rare cases, autoantibodies against PLA_2R and THSD7A may also occur together. Whereas autoantibodies against PLA_2R are found in the serum of up to 75 % of patients with primary MN, the prevalence of anti-THSD7A varies from 2 % to up to 14 %, depending on the primary MN cohort.

Diagnostic application

The Anti-THSD7A IIFT is the ideal supplement to the Anti-Phospholipase A_2 Receptor (PLA_2R) IIFT for the serological, non-invasive screening of patients with suspected primary MN. The IIFT provides both qualitative and semiquantitative determination of autoantibodies against anti-THSD7A. The serological detection rate is increased by using a two-step screening strategy, additionally investigating patients with a seronegative anti-PLA_2R result for anti-THSD7A antibodies. Since autoantibodies against THSD7A are specific for the diagnosis of primary MN, the antibody test is also suited for the differentiation of primary and secondary MN. The Anti-THSD7A IIFT is currently only available for research purposes.

EUROIMMUN AG · Seekamp 31 · 23560 Luebeck (Germany) · Tel +49 451 5855 0 · Fax +49 451 5855 591 · euroimmun@euroimmun.de · www.euroimmun.com

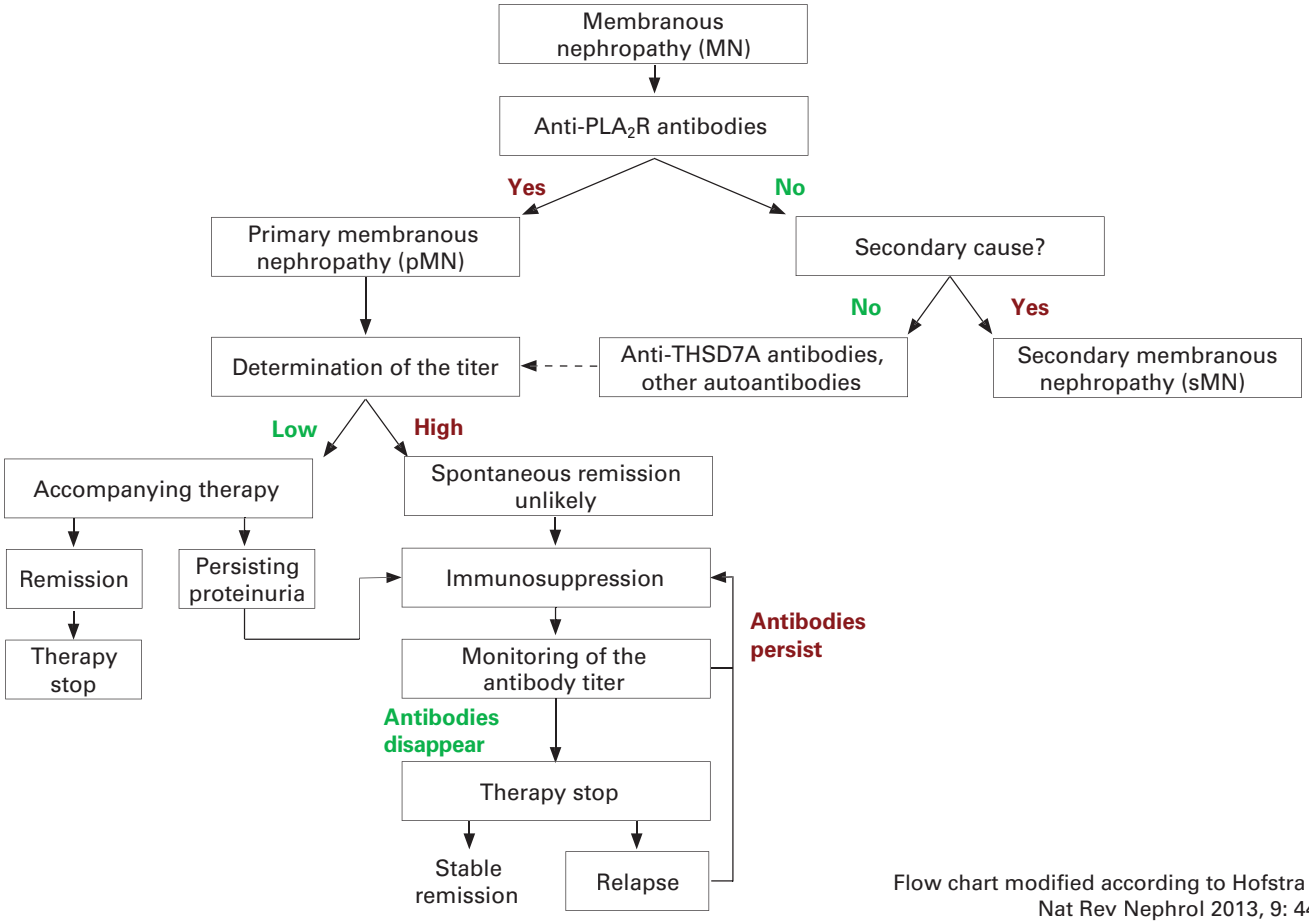
Test evaluation

Fluorescence pattern (positive reaction): Antibodies against thrombospondin type-1 domain-containing protein 7A (THSD7A) react with transfected cells of the test substrate, producing a fine-granular cytoplasmic fluorescence with an accentuated cell membrane. The cell nuclei remain unstained.

Reference range

Titer 1:< 10

Role of pMN-specific autoantibodies in diagnosis and therapy monitoring



Flow chart modified according to Hofstra J et al. Nat Rev Nephrol 2013, 9: 443-458.

Literature

1. Beck LH Jr, Bonegio RG, Lambeau G, Beck DM, Powell DW, Cummins TD, Klein JB, Salant DJ. M-type phospholipase A2 receptor as target antigen in idiopathic membranous nephropathy. N Engl J Med. 2009 Jul 2;361(1):11-21.
2. Hostra JM, Feryenza FC, Wetzels JF. Treatment of idiopathic membranous nephropathy. Nat Rev Nephrol. 2013, 9(8):443-58.
3. Larsen CP, L Cossey N and Beck LH. THSD7A staining of membranous glomerulopathy in clinical practice reveals cases with dual autoantibody positivity. Modern Pathology 2016, 29: 421–426.
4. Ronco P, Debiec H. Pathophysiological advances in membranous nephropathy: time for a shift in patient's care. Lancet 2015; 385: 1983–92.
5. Tomas NM, Beck LH Jr, Meyer-Schwesinger C, Seitz-Polski B, Ma H, Zahner G, Dolla G, Hoxha E, Helmchen U, Dabert-Gay A-S, Debayle D, Merchant M, Klein J, Salant DJ, Stahl RAK, Lambeau G. Thrombospondin Type-1 Domain-Containing 7A in Idiopathic Membranous Nephropathy. N Engl J Med. 2014, 371(24): 2277-2287.
6. Tomas NM, Hoxha E, Reinicke AT, Fester L, Helmchen U, Gerth J, Bachmann F, Budde K, Koch-Nolte F, Zahner G, Rune G, Lambeau G, Meyer-Schwesinger C, Stahl RAK. Autoantibodies against thrombospondin type 1 domain–containing 7A induce membranous nephropathy. J Clin Invest. 2016 May 23.

EUROIMMUN AG · Seekamp 31 · 23560 Luebeck (Germany) · Tel +49 451 5855 0 · Fax +49 451 5855 591 · euroimmun@euroimmun.de · www.euroimmun.com

FA_1254_D_UK_B01, 07/2016