# ANTI-C1Q-AUTOANTIBODIES FROM PATIENTS WITH LUPUS NEPHRITIS RECOGNIZE SOLUBLE C1Q

Alexandra Atanasova[1], Anna Yordanova[2], Vanya Bogoeva [2], Ginka Nikolova[1], Ivanka Tsacheva[1]

[1] *Laboratory of Molecular Immunology, Dept. Biochemistry, Faculty of Biology, Sofia University, Bulgaria*
[2] *Dept. Molecular Biology of Cell Cycle, IMB, BAS, Sofia, Bulgaria*

**Aim:** The serum molecule C1q is a typical autoantigen in many autoimmune disorders including Lupus Nephritis (LN). Two types of physiologically active domains characterise C1q structure – the collagen-like region (CLR) and the globular region (gC1q). Anti-CLR autoantibodies correlate with the clinical outcome of active LN and recognise neoepitope which is exposed on C1q upon immobilisation. Thus, clinical methods used to detect and to quantify anti-C1q antibodies include immobilized C1q. In contrast, anti-gC1q antibodies prevail before upcoming flare of LN. We aimed to analyse whether immobilisation of C1q is a prerequisite for auto-C1q antibodies to recognize the globular autoepitopes.

**Matherials and Methods:** The interaction of soluble C1q with immobilized IgG autoantibodies from sera of LN patients was analysed by:

A) ELISA, where we used as autoantigens the native C1q and recombinant analogues of gC1q globular regions: ghA, ghB and ghC.

B) Fluorescence spectroscopy with the same experimental design used for ELISA.

**Results:** Our data indicate dose-dependent interaction between LN autoantibodies and the soluble C1q. The IgG autoantibodies recognize all three globular regions of gC1q with the highest binding affinity to ghA.

**Conclusion:** Soluble C1q expose conformational autoepitopes that are recognised from anti-C1q antibodies. These autoepitopes are formed by all three globular fragments - ghA, ghB and ghC. The recognition of these globular autoepitopes is not affected by conformational changes in the structure of C1q due to immobilisation.

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