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EPITOPE PROFILING OF ANTI-RO52 ANTIBODIES IN PATIENTS WITH SYSTEMIC SCLEROSIS, SYSTEMIC SCLEROSIS-ASSOCIATED PRIMARY BILIARY CIRRHOSIS, AND PRIMARY BILIARY CIRRHOSIS ALONE

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My abstract has been or will be presented at a scientific meeting during a 12 months period prior to EULAR 2017: No
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Background: Anti-Ro52 antibodies are detected in patients with Sjogren's syndrome (SjS), systemic sclerosis (SSc) and other autoimmune rheumatic diseases. Epitope mapping studies of anti-Ro52 in autoimmune rheumatic diseases have failed to find any difference on epitope recognition suggesting a common stimulus for the loss of tolerance to Ro52. Such epitope differences, however, were noted between SjS and non-rheumatic diseases and in particular, SjS-associated primary biliary cirrhosis (SjS-PBC) or PBC alone (1).

Objectives: To assess whether or not the Ro52 epitope profile in anti-Ro52+ SSc patients differs from that of SSc-associated PBC (SSc-PBC) or PBC.

Methods: Serum samples were obtained from 63 anti-Ro52-positive (by ELISA) patients (33 SSc, 10 SSc-PBC, 20 PBC alone). Antibody reactivity to full length recombinant Ro52 and 5 baculovirus expressed Ro52 fragments spanning the whole sequence [Ro52-1 (aa 1-129), Ro52-2 (aa 125-268), Ro52-3 (aa 269-475), Ro52-4 (aa 57-180, partly overlapping with Ro52-1 and Ro52-2), and Ro52-5 (aa 181-320, partly overlapping with Ro52-2 and Ro52-3)] were tested by a line immunoassay.

Results: Reactivity was present to: full length Ro52 in all anti-Ro52 positive SSc, PBC-SSc, or PBC patients by line immunoassay; Ro52-1 in 6/33 (18.2%) SSc, 3/10 (30%) SSc-PBC, and 3/20 (15%) PBC; Ro52-2 in 33/33 (100%) SSc, 10/10 (100%) SSc-PBC and 20/20 (100%) PBC; Ro52-3 in 0/33 (0%) SSc, 0/10 (0%) SSc-PBC and 0/20 (0%) PBC; Ro52-4 in 4/33 (12.1%) SSc, 2/10 (20%) SSc-PBC, and 4/20 (20%) PBC and Ro52-5 in 11/33 (33.3%) SSc 4/10 (40%) SSc-PBC, and 9/20 (45%) PBC respectively ($p>0.05$ for all epitopes amongst the 3 cohorts). No statistically significant correlation was found.

Conclusions: The major epitope of anti-Ro52 does not differ among SSc, PBC-SSc and PBC and is localized on aa125-268, the major epitopic region of anti-Ro52 antibodies in SjS and other rheumatic diseases. Our epitope mapping data suggest that the mechanisms responsible for the loss of tolerance to Ro52 is common amongst diseases.

References: Mytilinaiou, Maria G.; Meyer Wolfgang; Komorowski, Lars; Probst, Christian; Davies, Edward T.; Vergani, Diego; Bogdanos, Dimitrios P. B-cell epitope mapping of anti-Ro52 responses in patients with primary biliary cirrhosis., Hepatology, Vol. 52 (4), 2010, 489

Disclosure of Interest: C. Liaskos: None declared, A. Gkoutzourelas: None declared, T. Simopoulou: None declared, E. Marou: None declared, T. Scheper Employee of: Euroimmun AG, W. Meyer Employee of: Euroimmun AG, L. Sakkas: None declared, D. Bogdanos: None declared