IFIT3 produced an opposite effect. Mechanistically, IFIT3 protein was found to interact both with STING and TBK1.
Conclusions We proposed that cGAS-STING signalling pathway was hyperactive in monocytes of SLE. IFIT3 is one of the important genes which contributed to the over-activation of cGAS-STING signalling pathway and over-produced IFN in SLE pathogenesis.

330 MASS SPECTROMETRIC SEQUENCING OF PRECIPITATING ANTI-RO REVEALS UNIQUE VH/VL PEPTIDE BIOMARKERS

[1]JJ Wang*,[1]M Al kindi, [1]A Colella, [1]L Dykes, [1]M Jackson, [2]T Chataway, [3]J Reed, [1]T Gordon. *[1]Flinders University, Immunology, Adelaide, Australia; [2]Flinders University, Flinders Proteomic Facility, Adelaide, Australia; [3]Garvan Institute of Medical Research, Immunology Division- Immunogenomics Laboratory, Sydney, Australia*

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Background and aims Autoantibodies directed against the 60-kD Ro (Ro60)/SSA ribonucleoprotein particle are the major target of humoral autoimmunity in patients with systemic lupus erythematosus (SLE) and primary Sjögren's syndrome (SS). However, little is known of the anti-Ro60 immunoglobulin variable-region (IgV) repertoire in terms of clonality and IgV gene usage at the level of the serum proteome.
Methods We used high-resolution mass spectrometry to sequence precipitating anti-Ro60 proteomes from sera of patients with SLE and primary SS and compare IgV peptide signatures in Ro/La autoantibody subsets. Anti-Ro60 were purified by elution from native Ro60-coated ELISA plates and subjected to combined *de novo* amino acid sequencing and database matching. Additionally, Ro60 precipitins from counterimmunoelectrophoresis gels were excised, digested and sequenced directly by mass spectrometry.
Results Anti-Ro60 Igs purified from ELISA plates and Ro60 precipitins were comprised dominant public sets of IgG1 kappa and lambda restricted heavy and light chains (with sharing of IGHV3-23, IGHV3-74 and IGHV1-18; IGKV3-20, IGKV1-5 and IGLV3-19). Significantly, mass spectrometric sequencing of purified anti-Ro60 IgGs from SLE patients showed the same convergence of autoantibody repertoires as primary SS, apart from one SLE patient who lacked IGHV3-74, suggesting that humoral anti-Ro60 molecular signatures are conserved across these two systemic autoimmune diseases. Specific IgV amino acid substitutions stratified anti-Ro60 from anti-Ro60 plus anti-La responses, providing a molecular fingerprint of Ro60/La determinant spreading.
Conclusions Unique anti-Ro60 IgV peptide signatures provide insights in to mechanisms of autoantibody production as well as holding promise as serum-based molecular markers for clinical syndromes linked to Ro60 autoimmunity.

331 IL-1B AND IL-6 ARE HIGHLY EXPRESSED IN RF+IGE+ SYSTEMIC LUPUS ERYTHEMATOUS SUBTYPE

[1]Y Wu*, [1]B Cai, [1]J Zhang, [1]B Shen, [1]Z Huang, [2]C Tan, [3]CC Baan, [1]L Wang*. *[1]West China Hospital affiliated Sichuan University, Department of Laboratory Medicine, Chengdu, China; [2]West China Hospital affiliated Sichuan University, Department of Rheumatology, Chengdu, China; [3]West China Hospital affiliated Sichuan University, Department of Laboratory Medicine, Rotterdam, Netherlands Antilles*

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Background and aims Systemic lupus erythematous (SLE) is anautoimmune disease with great heterogeneity in pathogenesis and clinical symptoms. To better categorise SLE subtypes we determined the dominant cytokines based on RF+IgE+ (both RF and IgE were positive) familial SLE.
Methods RF, IgE and multiple cytokines (i.e., IL-1β, IL-6, IL-8, IL-10, IL-17, IFN–γ, IP-10, MCP-1 andMIP-1β) were measured in sera of familial SLE (n=3),non-inherited SLE (n=108) and healthy controls (n=80).
Results Three SLE patients in family and 5 out of 108 non-inherited patients featured with RF+IgE+. These RF+IgE +SLE patients expressed significantly higher levels of IL-1β and IL-6 than the other SLE patients ($p<0.05$). IL-6 correlated with both IgE and IL-1β levels in RF+IgE+ SLE patients($r^2=0.583$,$p=0.027$; $r^2=0.847$,$p=0.001$).
Conclusions Both IL-1β and IL-6 are highly expressed cytokines in RF+IgE+ SLE subtype which may be related to the pathogenesis of this special SLE subtype.

332 CEREBROSPINAL FLUID UBIQUITIN CARBOXYL HYDROLASE L1 (UCH-L1) AND ITS AUTOANTIBODY ARE USEFUL BIOMARKERS FOR NEUROPSYCHIATRIC SYSTEMIC LUPUS ERYTHEMATOSUS (NPSLE)

[1]X Li*, [2]Y Meng, [1]Y Gan, [1]G Wang, [1]R Mu, [1]X Liu, [1]X Sun, [1]Z Li. *[1]peking university people's hospital, rheumatology and immunology, beijing, China; [2]The Fifth Affiliated Hospital of Zhengzhou University, Department of Rheumatology and Immunology, Zhengzhou, China*

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Background and aims To identify cerebrospinal fluid (CSF) biomarkers for the diagnosis and disease severity evaluation of neuropsychiatric systemic lupus erythematosus (NPSLE).
Methods CSF samples (36 NPSLE, 19 SLE controls, 4 other connective tissue disease controls and 10 other nervous system disease controls) and serum samples (21 NPSLE and 6 SLE controls) were included in this study. The levels of UCH-L1 and its autoantibody were determined by Luminex multiplex (xMAP) assays and enzyme-linked immunosorbent assay (ELISA) respectively.
Results 1) Among 6 candidate neurological disease related proteins, including ubiquitin carboxyl hydrolase L1 (UCH-L1), total Tau protein, phospho-Tau protein, DJ-1 protein, nerve growth factor (NGF) and α-Synuclein (α-SYN), UCH-L1 was significantly elevated in the CSF of patients with NPSLE defined by 2001 Ainiala's modified criteria, while it was lower in those defined by 1999 ACR criteria but merely presented with headache or mild mood disorder, and in SLE controls whose neuropsychiatric manifestations were not due to SLE. The elevation of CSF UCH-L1 levels were associated with elevated SLEDAI and the number of NPSLE manifestations diagnosed in individual patients. 2) The CSF levels of UCH-L1 autoantibodies were significantly elevated in patients with NPSLE, and showed a sensitivity of 53% and a specificity of 91% for the diagnosis of NPSLE. CSF anti-UCH-L1 levels were associated with organ involvements, and were positively correlated with serum anti-UCH-L1 levels in the NPSLE patients.
Conclusions Anti-UCH-L1 is a promising CSF biomarker for NPSLE diagnosis with high sensitivity and specificity, and CSF levels of UCH-L1 may reflect the severity of NPSLE.