either with etanercept (ETA, 10 mg/kg), an anti-mouse TNF antibody (MP6-XT22, rat IgG1, 10 mg/kg) or an anti-human IL17 antibody (secukinumab, SEC, 10 mg/kg) as a control. Daily clinical evaluation of K/BxN serum induced-arthritis was performed in 3TG as well as WT mice. Polarization of bone marrow-derived macrophages (BMDM) and cytokine production from non-arthritic WT and 3TG mice under the action of anti-TNF in vitro was evaluated by RT-qPCR, CBA and ELISA.

Results In vivo, the administration of anti-TNF (ETA or MP6-XT22) decreased arthritic scores in WT mice (p=0.005) as well as in 3TG mice (p<0.001), unlike SEC which had no effect, proving that anti-TNF binding of mTNF decreased arthritis. In vitro effect of anti-TNF on BMDM from WT as well as 3TG mice induced a decrease in the expression of genes specific of inflammatory macrophages (CD38, GpR18 and FpR2), and an increase in the expression of genes specific of alternative macrophages (Arg1, EgR2, c-Myc). We also observed an inhibition of the secretion of pro-inflammatory cytokines (IL12p70 and IL-6) and an early peak of IL-10 secretion demonstrating an effect of reverse signaling on macrophage polarization and activation. This suggested a switch in macrophage polarization as a probable mechanism for modulation of inflammation during K/BxN serum-induced arthritis.

Conclusions Our work provides in vivo evidence for the involvement of reverse signaling in the anti-TNF-mediated modulation of arthritis. Reverse signaling is expected to result in the modulation of macrophage polarization from an inflammatory to an alternative functional phenotype in arthritic mice. Our data prompt us to consider new interpretation of the effects of anti-TNF in the treatment of RA.

Disclosure of Interest None declared.

CIRCULATING FOLLICULAR HELPER T CELLS ARE INCREASED IN SYSTEMIC SCLEROSIS AND PROMOTE PLASMA Blast DIFFERENTIATION THROUGH THE IL-21 PATHWAY WHICH CAN BE INHIBITED BY RUXOLITINIB

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Acknowledgements This work was supported by the Aterhit foundation and received grants from ‘Groupe Francophone de Recherche sur la Sclérose’ (GFRS).

Disclosure of Interest None declared.

THE EUROPEAN CONSENSUS FINDING STUDY GROUP ON AUTOANTIBODIES 2017/18 INVESTIGATION: CHARACTERISATION OF AUTOANTIBODY CONTENT IN A NEW INTERNATIONAL REFERENCE STANDARD FOR DENSE FINE SPECKLED 70KD (DFS70) AUTOANTIBODIES

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Disclosure of interest None declared.

Career situation of first and presenting author Instructor

Introduction The European Consensus Finding Study Group on autoantibodies (ECFSG) a.k.a. the EULAR autoantibody study group has been active for 30 years.

Objectives To reach consensus about autoantibody measurements in clinical practice, and to evaluate upcoming autoantibody standard reagents concerning autoantibody content.

Methods ECFSG focus on evaluating difficult to interpret serum samples, where differences between assays can be clearly visible. Ten unknown samples are distributed yearly to European laboratories, and analyzed broadly. Results are collected with information about laboratory techniques used, and discussed in relation to clinical information on the donating patients during EWR. The 2017/2018 investigation contained nine patient samples, and a not yet launched pooled standard for anti-dense fine speckled 70kD antibodies, an ANA reactivity with specific nuclear staining on HEp-2 cells that can be confused with homogenous ANA, but that is not associated with autoimmune disease.

Results Acceptable consensus was reached for the clinical samples. Anti-DFS70 pattern was reported from 32/38
laboratories, whereas 5/38 reported homogenous ANA, one reported unknown pattern. Except for 4 out of 24 laboratories reporting anti-histone and 2 out of 33 laboratories reporting ACPA, both in low levels, no autoantibodies were reported. Consensus was that the sample contained pure anti-DFS70.

**Conclusions** ECFSG helps to keep awareness on differences between autoantibody assays. The anti-DFS70 ANA pattern was identified by most laboratories in a reagent that proved to be free of other autoantibodies. The anti-DFS70 standard will be available via http://asc.dental.ufl.edu/ReferenceSera.html#text.

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**Disclosure of Interest** None declared.

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### P042/005

**MOLECULAR MIMICRY AND AUTOIMMUNITY: ANTI-P. GINGIVALIS ANTIBODY RESPONSE IN ACPA-POSITIVE RHEUMATOID ARTHRITIS**

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10.1136/annrheumdis-2018-EWRR2019.34

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**Introduction** The presence of anti-citrullinated protein antibodies (ACPs) is a hallmark of rheumatoid arthritis (RA). ACPAs specifically recognize citrullinated epitopes, a result of a post-translational modification catalyzed by peptidyl arginine deiminases (PAD). Based on the unique feature of the periodontal bacteria *Porphyromonas gingivalis* (P.gingivalis) to express P.PAD it has been suggested that ACPA-positive RA may be precipitated in the gum mucosa.

**Objectives** To address this hypothesis our aims were to investigate the antibody response against a citrullinated PAD peptide (CPP3) in patients with RA, chronic periodontitis (PD) and in controls. In addition, we generated monoclonal antibodies (mAbs) from gingival tissue B cells of RA patient aiming to investigate whether citrulline-specific B cells may reside in the gingiva.

**Methods** Gingival tissue-derived single CD19+ B cells from an ACPA-positive RA patient with PD were sorted by flow cytometry. Immunoglobulin variable region genes were sequenced and expressed to generate recombinant mAbs. CPP3-reactivity was analysed by ELISA in serum samples from 66 PD patients, 63 periodontally healthy controls (non-PD), 200 RA patients, and 120 non-RA controls, as well as in 55 mAbs. Differences in antibody levels were examined using Mann-Whitney U test for independent groups.

**Results** Anti-CPP3 antibody levels were low in non-PD controls, while 65% of PD patients showed elevated levels (p<0.0001). Significantly increased antibody levels were also reported...