analysed using Significance Analysis of Microarrays (SAM) and pathway analysis using PANTHER. Activation of STAT-1 was determined by immunofluorescence and real-time PCR. FLS proliferation was monitored by ^3H -thymidine incorporation. Apoptosis was determined by staining with Annexin V and propidium iodide (PI). Staining with PI was also used to analyse cell cycle distribution. Expression of GADD45 β mRNA was measured by real-time PCR.

Results Gene expression profiling of IFN-stimulated rheumatoid FLS provided evidence for inhibition of cell cycle regulation. Accordingly, IFN stimulation resulted in a >50% decrease in DNA synthesis. The inhibitory effect was not due to induction of apoptosis but was shown to be the consequence of limited cell cycle progression due to accumulation of cells in G0/1 phase. The inhibitory effect overruled TNF α -induced cell cycle progression to G2/M phase and proliferation. This effect correlated with expression of the Growth-Arrest and DNA Damage-Inducible gene GADD45 β .

Conclusion These results indicate that IFN-induced inhibition of cell cycle progression in rheumatoid FLS overrules TNF α -induced proliferative effects.

Funding This work has been supported by the EU Marie Curie Training Network (EURO-RA), the EU integrated program AUTOCURE, and CMSB (Netherlands Centre of Excellence on Genomics Research)

A63 INTERFERONS OVERRULE THE TNF-INDUCED PROLIFERATION OF RHEUMATOID FIBROBLAST-LIKE SYNOVIOCYTES

Marjolein Blits,¹ Sander de Ridder,¹ Trieneke C G Timmer,² Pia V Kasperkovitz,² Alejandro Martin Trujillo,¹ Bert van het Hof,² Tineke C T M van der Pouw Kraan,² Saskia Vosslamber,¹ Tamarah de Jong,¹ John Wesseling,¹ Sonja I Gringhuis,² Cornelis L Verweij³ ¹Department of Pathology, VU University Medical Center, Amsterdam, The Netherlands; ²Department of Molecular Cell Biology and Immunology, VU University Medical Center, Amsterdam, The Netherlands; ³Department of Pathology & Department of Rheumatology, VU University Medical Center, Amsterdam, The Netherlands

10.1136/ard.2010.149104.7

Objectives Tumour necrosis factor α (TNF- α) and interferons (IFNs), which are abundantly present in the rheumatoid synovium, are thought to exert two opposing effects on RA pathology. We studied the opposing effects of IFNs and TNF on the proliferative capacity of rheumatoid fibroblast-like synoviocytes (FLS).

Methods IFN and/or TNF induced changes in FLS gene expression were measured by DNA-microarray analysis and data was