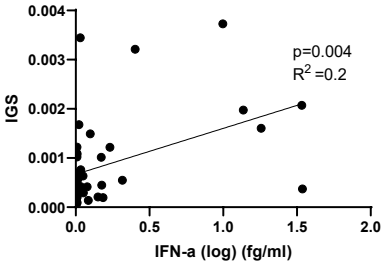
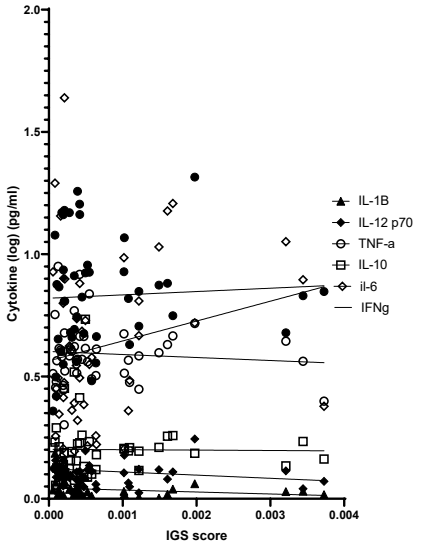
A

	NEAC Validation cohort
Number (n)	51
Age, years, median (range)	58 (30-87)
Female, n (%)	31 (61%)
RF positive, n (%)	32 (61%)
ACPA positive, n (%)	35 (67%)
DAS-28-CRP, median	4.39 (1.38-7.07)
C-reactive protein (mg/L), median (range)	8 (4-114)
Erythrocyte sedimentation rate (mm/h), median (range)	23 (2-68)

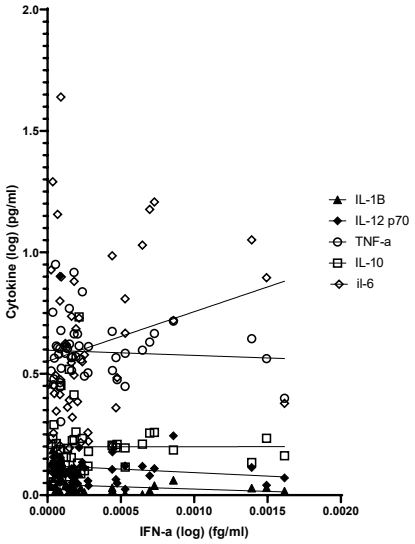
B



C



D



Supplementary file:

Cohort of early drug naïve RA patients recruited from NEAC with a new diagnosis of RA as per 1987 and 2010 classification criteria. **A** Demographic data for validation cohort shown. **B** Linear regression between circulating IFN-α and whole blood IGS in NEAC validation cohort (p=0.004, R^2 0.2, n=47). **C** Circulating levels of IFN-γ (IFNg), TNF-α (TNF-a), IL-6, IL-1β (IL1B), IL-12 p70 and IL-10 were measured

using MSD technology (Meso Scale Discovery) as per manufacturer's instructions. Linear regression between whole blood IGS score and circulating levels cytokines of IFN-γ (IFNg), TNF-α (TNF-a), IL-6, IL-1β (IL1B), IL-12 p70 and IL10 was performed. There was no significant association between any of the cytokines measured and the IGS (p=0.738, p=0.170, p=0.211, p=0.557, and p=0.939 respectively). **D** Circulating levels of IFN-α were measured using Simoa technology (see main methods for details) and linear regression performed between IFN-α and levels of other circulating cytokines, IFN-γ (IFNg), TNF-α (TNF-a), IL-6, IL-1β (IL1B), IL-12 p70 and IL10. Again there was no significant association, p=0.672, p=0.666, p=0.133, p=0.196, p=0.565, p=0.992 respectively.