Supplementary Table S1. Cytokine levels in adult participants (≥18 years) across study groups [values expressed as median (IQR)]

Cytokine	Healthy controls	Treatment-naïve	Post-treatment	Kruskal-Wallis p-value
IFN-γ (pg/mL)	0.75 [0.65-0.85]	0.50 [0.42-0.93]	2.45 [1.92-3.49]	<0.001
IL-2 (pg/mL)	0.51 [0.40-0.65]	1.13 [0.90-1.30]	1.30 [1.15-1.75]	<0.001
IL-4 (pg/mL)	0.48 [0.35-0.60]	1.53 [1.29-2.00]	1.30 [1.07-1.75]	<0.001
IL-10 (pg/mL)	0.77 [0.60-0.95]	1.50 [1.16-1.90]	1.32 [0.85-1.55]	<0.001

Distribution of cytokine levels among adult participants (≥18 years) across healthy controls, treatment-naïve chronic HCV patients, and post-treatment patients. Data are presented as median with IQR. Group comparisons were performed using the Kruskal-Wallis test. All cytokines showed statistically significant differences across groups (p<0.001). IFN: Interferon, IL: Interleukin, IQR: Interquartile range, HCV: Hepatitis C virus

Supplementary Table S2. Pairwise comparison of cytokine levels among adult participants using Mann-Whitney U test

Cytokine	Groups compared	U statistic	p-value	FDR-adjusted q-value	Interpretation
IFN-γ	Healthy vs. treatment-naïve	1820.0	0.002	**0.0027**	Significant
	Treatment-naïve vs. post-treatment	210.0	<0.001	**0.0015**	Highly significant
	Healthy vs. post-treatment	55.0	<0.001	**0.0015**	Highly significant
IL-2	Healthy vs. treatment-naïve	300.0	<0.001	**0.0015**	Highly significant
	Treatment-naïve vs. post-treatment	1650.0	0.004	**0.0040**	Significant
	Healthy vs. post-treatment	70.0	<0.001	**0.0015**	Highly significant
IL-4	Healthy vs. treatment-naïve	5.0	<0.001	**0.0015**	Highly significant
	Treatment-naïve vs. post-treatment	3500.0	0.002	**0.0027**	Significant
	Healthy vs. post-treatment	120.0	<0.001	**0.0015**	Highly significant
IL-10	Healthy vs. treatment-naïve	320.0	<0.001	**0.0015**	Highly significant
	Treatment-naïve vs. post-treatment	3300.0	0.003	**0.0033**	Significant
	Healthy vs. post-treatment	250.0	<0.001	**0.0015**	Highly significant

Pairwise comparisons of cytokine levels among adult participants (≥18 years) using the Mann-Whitney U test. Significant differences were observed across all cytokines between study groups. Post-treatment patients demonstrated significantly higher IFN-γ levels compared with both treatment-naïve patients and healthy controls. IL-4 and IL-10 levels were highest in treatment-naïve patients and showed partial reduction in post-treatment patients, though remaining elevated compared with healthy controls. IFN: Interferon, IL: Interleukin, FDR: False discovery rate