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Evidence for a widespread effect of interferon lambda 4 on hepatitis C virus diversity

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Type III interferons, and most notably IFN- λ 4, are part of the early innate immune response to hepatitis C virus (HCV) infection. Here we use paired genome-wide human and viral genetic data in 485 patients of Caucasian origin infected with HCV genotype 3a to explore the role of IFN- λ 4 on HCV evolution during chronic infection. We show that IFN- λ 4 has a widespread effect on viral diversity

at the nucleotide and amino acid levels. Additionally, we characterized the role of the different forms of IFN- λ 4 protein on viral diversity and viral load. These findings highlight the potential role of more than one mechanism responsible for IFN- λ 4-mediated viral selection and clinical and biological outcomes.