

# MAPPING THE INTERPLAY OF VIRAL AND HOST GENOMICS WITH HIFI SEQUENCING

## Viral genomics

## Human genomics and transcriptomics

Understand the efficacy of vaccines

Explore links between metagenomes and all aspects of virus infection and treatment response

Monitor quasispecies dynamics or the emergence of minor variants under selective pressure

Immune escape  
Drug resistance

Find all the variants that impact susceptibility, immune response, and disease progression

New virus discovered

HiFi reads span viral genomes

Highly accurate long reads (HiFi reads) enable every aspect of your viral research

Chromosome 6

Class II  
DQ DR B C E  
Class I

Understand the spread of a novel virus or strain through communities

HiFi reads

Host genetics  
Immune response

Explore how allelic variation in HLA genes correlates with susceptibility or disease progression

Identify conserved regions and mutational hotspots

HiFi reads

Short read  
HiFi read

Understand how the germline IGH locus impacts the immune response

Sequence full-length B cell receptor repertoires

Research use only. Not for use in diagnostic procedures. © 2025 Pacific Biosciences of California, Inc. ("PacBio"). All rights reserved. Information in this document is subject to change without notice. PacBio assumes no responsibility for any errors or omissions in this document. Certain notices, terms, conditions and/or use restrictions may pertain to your use of PacBio products and/or third-party products. Refer to the applicable PacBio terms and conditions of sale and to the applicable license terms at [pacb.com/license](https://pacb.com/license). Pacific Biosciences, the PacBio logo, PacBio, Circulomics, Omniome, SMRT, SMRTbell, Iso-Seq, Sequel, Nanobind, SBB, Revio, Onso, Apton, Kinnex, PureTarget, SPRQ, and Vega are trademarks of PacBio.