

VICAST-Annotate

Genome Preparation (run once per virus)

Download Reference Genome

NCBI GenBank / FASTA

Generate Gene Annotations

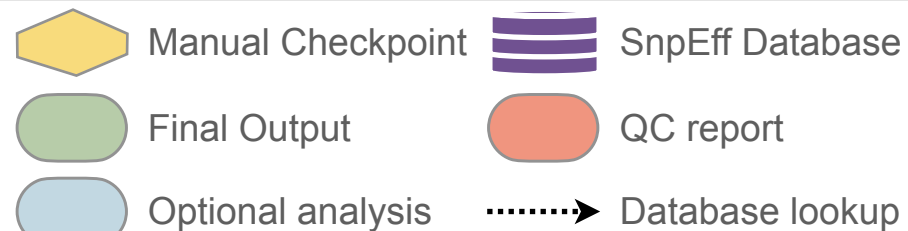
4 pathways: pre-built, parse GenBank, BLASTx-based, segmented genomes

Manual Curation

Build SnpEff Database

or install pre-built genome

Custom
SnpEff
Database



VICAST-Analyze

Variant Calling & Annotation (run per sample)

Paired end reads

FASTQ

QC & Trimming

fastp

De novo Assembly

MEGAHIT

Alignment

bwa mem

Contamination Screen

BLASTN vs 18,804 seq DB

Variant Calling

lofreq

Checkpoint 1

Contamination Report

Checkpoint 2

Variant Filtering

frequency, depth, quality

Annotation

SnpEff

Annotated Variants

VCF • TSV • HTML Report

Advanced:

Haplotype Consensus & Co-occurrence Validation