

# PetaSuite

## FE Plus - preserve all your read data

### Overview

FE Plus is a feature of PetaSuite that enhances Functional Equivalence to preserve all the original read data that regular FE pipelines discard, in a footprint that is typically up to 10% smaller than regular FE CRAM.<sup>†</sup>

Instantly switch quality scores back to the Original Quality Scores (OQs) in BAM using just an environment variable setting, with the option to revert back to the original FASTQ.

The first FE Plus pipeline is now available.

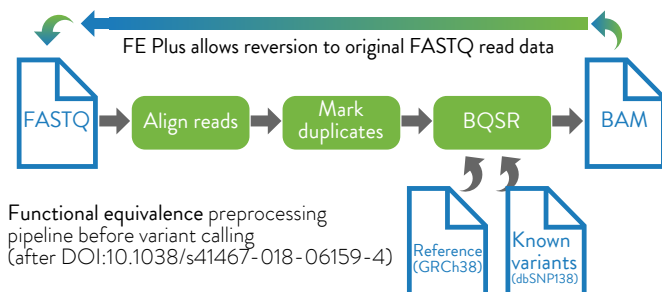
### Issues with Functional Equivalence

The Functional Equivalence (FE) specification aims to harmonize variant calling across projects by establishing rules for compliant pipelines.

FE v1 was released in 2018. However, the output from FE pipelines discards original quality scores after Base Quality Score Recalibration (BQSR), and some pipelines may also discard some certain reads.

It is expected that the FE specification will continue to be updated as improvements and innovations continue to be made.

For reproducibility and to support future FE revisions, it is vital to ensure that all the original read data is also fully preserved.

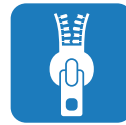


<sup>†</sup> measured on Illumina NovaSeq datasets



### Preserve original read data

Robust, high performance compression with full validation and MD5 matching.



### Smaller than Regular FE

Efficiently store NGS data at a cost reduction.



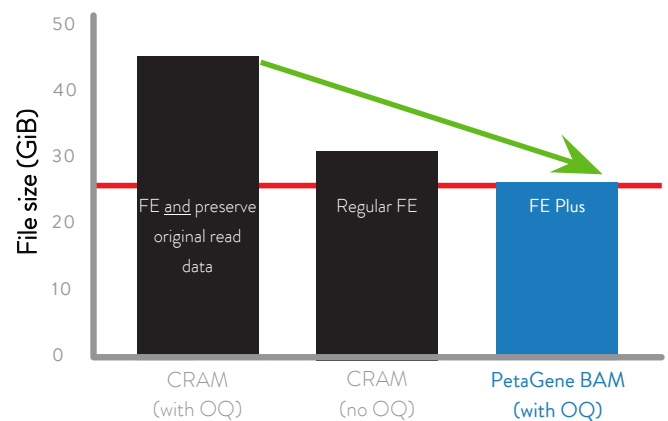
### Transparent Access

Applications see a BAM file allowing transparent access to data in the original format.

### The Solution

Preserving all the read data in the Functional Equivalence output results in much larger CRAM files.

FE Plus lets organizations preserve all their original read data in a file footprint that is smaller than FE CRAM.



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