

Falcon Accelerated Genomics Pipelines

Flexibility & speed for all your genome analytics

“The Falcon Accelerated Genomics Pipeline has enabled us to cut our turn-around **from days into few hours** while maintaining the accuracy of industry standard GATK pipelines.”

Dr. Xinmin Li
Director of Technology
Center for Genomics &
Bioinformatics (TCGB) UCLA

Our Pipelines

Falcon Best Practices

Accelerated GATK pipelines without code changes, enabling access to intermediary files

Falcon Germline & Somatic

Fast variant calling pipelines with short turnaround & high levels of accuracy

Going beyond speed

Flexible

Our pipelines are configurable and can be easily integrated into workflows developed by data scientists, researchers and academics working to fulfill the promise of precision medicine. Organizations such as genome research centers, sequencing service providers and pharmaceutical companies benefit from the flexibility to access or skip any step of the pipelines and tune parameters as necessary to best fit their data. An additional value of our solution is the ability to analyze intermediary results before pushing the pipeline to call variants in clinical and research settings. All of this can be done across multiple platforms on both cloud & onsite.

Accurate

The Falcon genomics pipelines produce highly accurate variant calls that are suitable for clinical labs as well as research applications. Our accelerated version of the GATK produces results that are equivalent to results from the original GATK Best Practices pipeline as there are no code rewrites or code changes. The Falcon Germline & Somatic pipelines provide high level of accuracy while increasing turnaround times for variant calling pipelines.

Customizable

There is no one-size fits all solution in genome analysis for a good reason, primary to tertiary analysis is very computationally complex and always evolving. The Falcon Computing team is highly motivated by the industry’s momentum and its ability to surface computational challenges that could benefit from acceleration. Falcon is constantly adding customizations on top of our pipelines while working on new solutions that democratize access to accelerated computing. Give us a problem and let’s solve it together.

Scalable accuracy across cloud & onsite environments

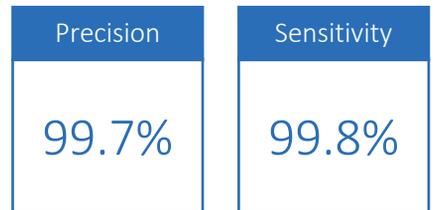
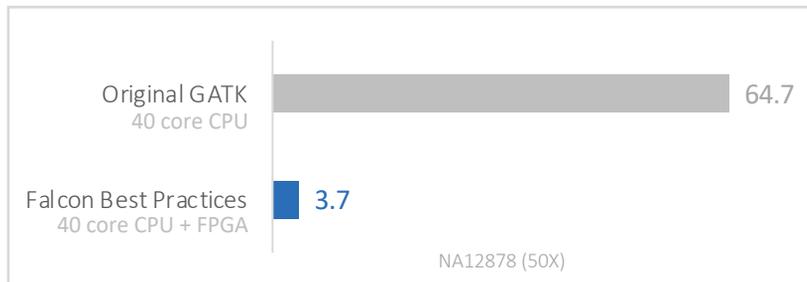
The Falcon Accelerated Genomic Pipelines (FAGP)

- Fast preconfigured solutions for WES and WGS variant calling
- Flexibility to adjust parameters, access intermediary files & accelerate custom pipelines
- Solution available on multiple platforms across public clouds and on-premise platforms
- Cost and runtime management support for your HPC and hybrid cloud environments

FAGP provides accelerated software solutions that run on Field Programmable Gate Array (FPGA) and CPUs to provide faster turnaround times for computationally intensive tools & pipelines. The configurable nature of our solutions allows for customizations on top of our variant calling pipelines while also extending to accommodate your custom pipelines.

Falcon Best Practices Pipelines

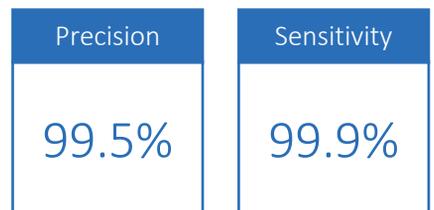
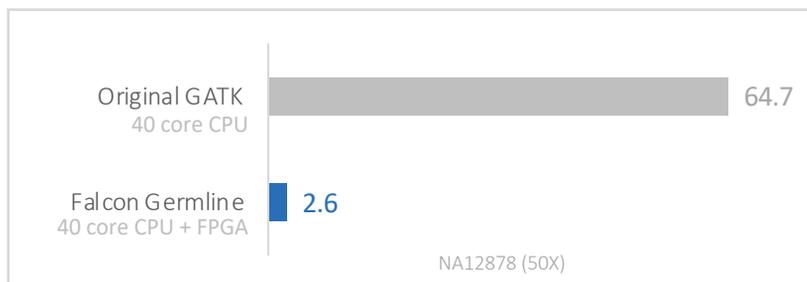
The Falcon Best Practices are an accelerated version of multiple versions of GATK without doing any code rewrites. This makes it possible for users to tune parameters, enable or disable different steps of the pipelines and still provide access to intermediary files. All of this can be done in a fraction of the time it takes to run the original GATK while still being able to provide highly accurate and consistent results.



Same accuracy as Original GATK
(Compared with Genome-In-A-Bottle Datasets)

Falcon Germline & Somatic

When fast turnaround time becomes key, the Falcon Germline & Somatic pipelines for variant calling are a great solution. Through highly optimized aligners and variant caller tools, turnaround time can be reduced to increase your sample throughput while continuing to have access to the same accuracy and flexibility of the Falcon Best Practices



Fast turnaround, high accuracy
(Compared with Genome-In-A-Bottle Datasets)

Enabling Acceleration at Scale

Cost Optimization

Falcon Engine uses a combination of your time constraints and sample size to deliver a custom cloud platform that fits your budget

Hybrid Cloud Management

Remove the complexity of your sample runtime management across your on-prem and public cloud instances