



Genotyping By Sequencing Solutions

resequencing
storage genetics
assembly
target ncRNA
variation metagenomics
RNA-seq de novo trio private
mendelian exome ChIP-seq
genomics
bioinformatics
DNA GBS prediction
genotyping custom
SNP comparative genomics
high-throughput NGS gene expression
structural variation
epigenetics indel amplicon
tumor-normal personalized
diagnostics



NGS Next Generation Services



IGATech is the leading Italian provider of genomic research services using Illumina Next Generation Sequencing (NGS) technology. We are the largest lab in Italy offering these services on a wide range of organisms: we have experience with humans, other animals, plants and microorganisms.

The company has direct access to the scientific and technological resources of its founder, the Institute of Applied Genomics (IGA), which has gained an outstanding reputation in genomic research through participation in genome sequencing projects both at a national and international level.

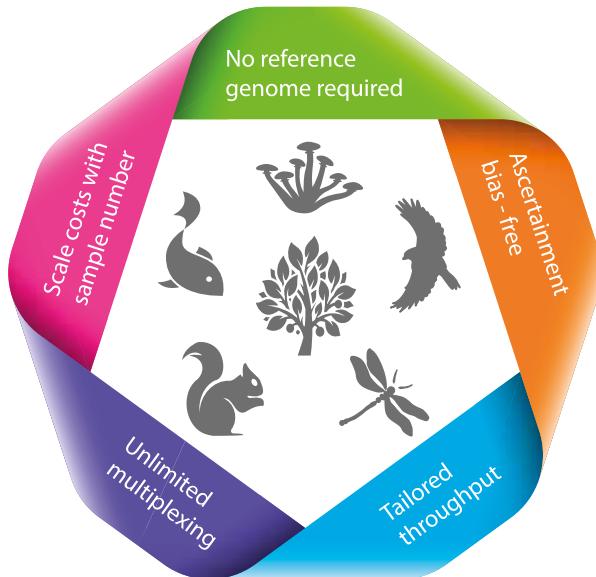
Among the genomic research services provided, the company also offers a wide variety of bioinformatic services such as conventional and custom analyses and customer-oriented software development.

Genotyping By Sequencing solutions

IGATech offers genotyping by sequencing (GBS) solutions. As the throughput of Illumina sequencing increases, its potential as a fast and cost-efficient way for massive genotyping experiments becomes consolidated.

Overcoming the need of expensive and labor-intensive array-based solutions, the redundancy of sequenced reads is now used as a proxy to generate accurate genotyping across large batches of individuals in a single sequencing run.

A complexity-reduction of template DNA is obtained via restriction enzyme cleavage, generating the so-called Restriction Associated DNA (RAD) tags. Depending on the chosen enzymes and the size of selection, a variable amount of genomic loci is sequenced across all individuals, simultaneously. Hundreds of thousands genotype data-points can be generated in a single Illumina sequencing lane. Our company has also a consolidated experience in targeted re-sequencing and other locus-specific enrichment protocols that might be suited for more focused GBS approaches.



IGATech is willing to provide the optimal GBS solution to customers. Depending on the experiment type, the size of the genome, the available genetic variability, and the desired level of resolution, GBS strategies can vary considerably to maintain their cost-effectiveness while providing valuable data.

We offer expert advice prior project kick-off to design the appropriate complexity-reduction, providing the most tailored throughput as possible.

Services list

ADVANTAGES OF GBS TECHNIQUES

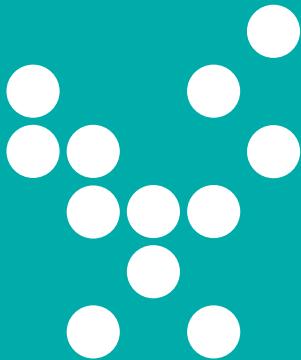
- Discovery and genotyping: one experiment
- Reference genome is not required
- Unlimited multiplexing capabilities
- Costs scale with sample number
- Tailored throughput
- Ascertainment bias free
- Virtually suitable to any genome

BIOINFORMATICS SERVICES

- Multi-sample SNP calling
- Population-wide genotype scoring matrix
- Linkage analysis
- Diversity analysis
- Diagnostic markers discovery
- Genetic anchoring of de novo assemblies
- Customer-oriented data conversion

IGATech obtained a non-exclusive license from KeyGene N.V. for the commercial offering of patent protected GBS solutions.





IGA TECHNOLOGY SERVICES SRL
c/o Parco Scientifico e Tecnologico L. Danieli
Via Linussio 51 – 33100, Udine (Italy)
Tel. +39 0432 629911

www.igatechnology.com