



**BATJ**

Bio Applied Technologies Joint, Inc.

6331 Nancy Ridge Dr. #A , San Diego, CA 92121; (858) 622-9498; [www.batj.net](http://www.batj.net)

# Next Generation Sequencing (NGS) Services

## Fast · Reliable · High Quality



**Ion PGM™ System**



**Illumina HiSeq 2500**

- **Targeted Re-Sequencing**
- **Whole-Transcriptome Sequencing (RNA-Seq)**
- ***de novo* Genome Sequencing**
- **Metagenomic Sequencing**
- **SNP Discovery and Verification**
- **Genotyping By Sequencing**
- **Copy Number Analysis**
- **DNA-Protein Interaction Analysis (ChIP-Seq)**
- **DNA Methylation analysis**
- **Whole Plasmids or PCR Fragments Sequencing (PPS)**
- **Antibody Repertoire Sequencing (Ig-seq)**



CONSTRUCT  
LIBRARY



PREPARE  
TEMPLATE

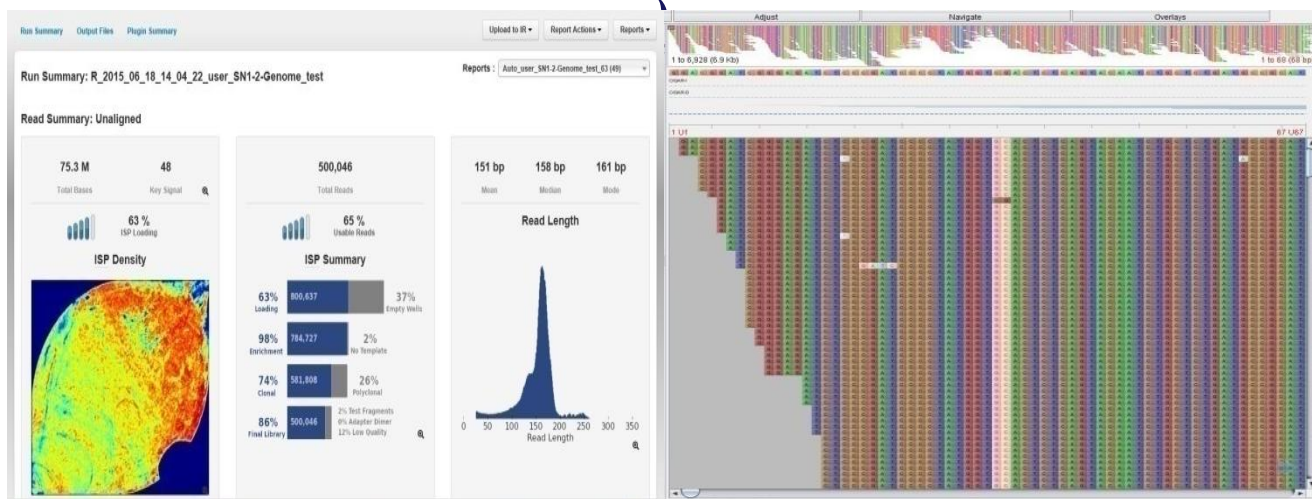


RUN  
SEQUENCE



ANALYZE  
DATA

## Whole Plasmids and PCR Fragments Sequencing (PPS Service by NGS)



### NGS PPS Service developed at BATJ

- Determine the complete sequence of circular or linear DNA molecules in a single run
- Ideal for unknown plasmid structure or whole plasmid identification after modification
- Suitable for a wide range of difficult templates (repetitive regions, strong secondary structures, GC rich...)
- No more sequencing walking primers to design and synthesis
- Reference sequence preferred, but not required
- Deep coverage of the whole DNA sequence (>100x)
- Up to 96 barcoded samples per chip run.
- Fast turnaround time (usually 3-5 business days)



CONSTRUCT  
LIBRARY



PREPARE  
TEMPLATE



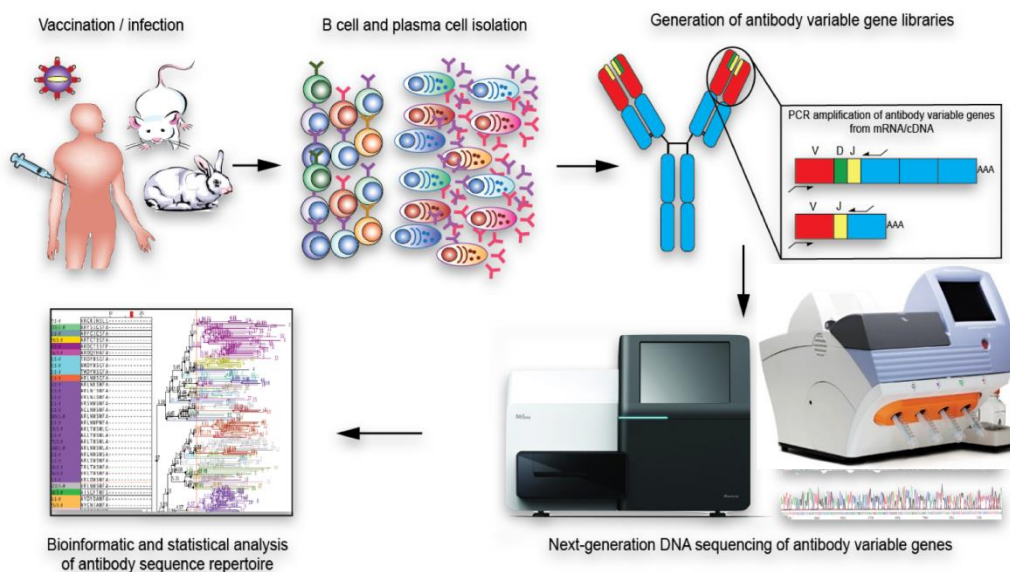
RUN  
SEQUENCE



ANALYZE  
DATA

# Ig-Seq Service by NGS

## (High-Throughput Antibody Repertoire Sequencing)



- **Quantitative characterization of clonal diversity and distribution within immunoglobulin repertoire**
- **Comprehensive profiling of antigen- and disease-related alterations, as well as prioritizing of antibody drug candidates for further analysis**
- **Long read length (up to 500 bp)**
- **Deep coverage of Ig repertoire: up to 1 million CDR3/run**
- **Fast turnaround time: ~3-5 business days**



CONSTRUCT  
LIBRARY



PREPARE  
TEMPLATE



RUN  
SEQUENCE



ANALYZE  
DATA

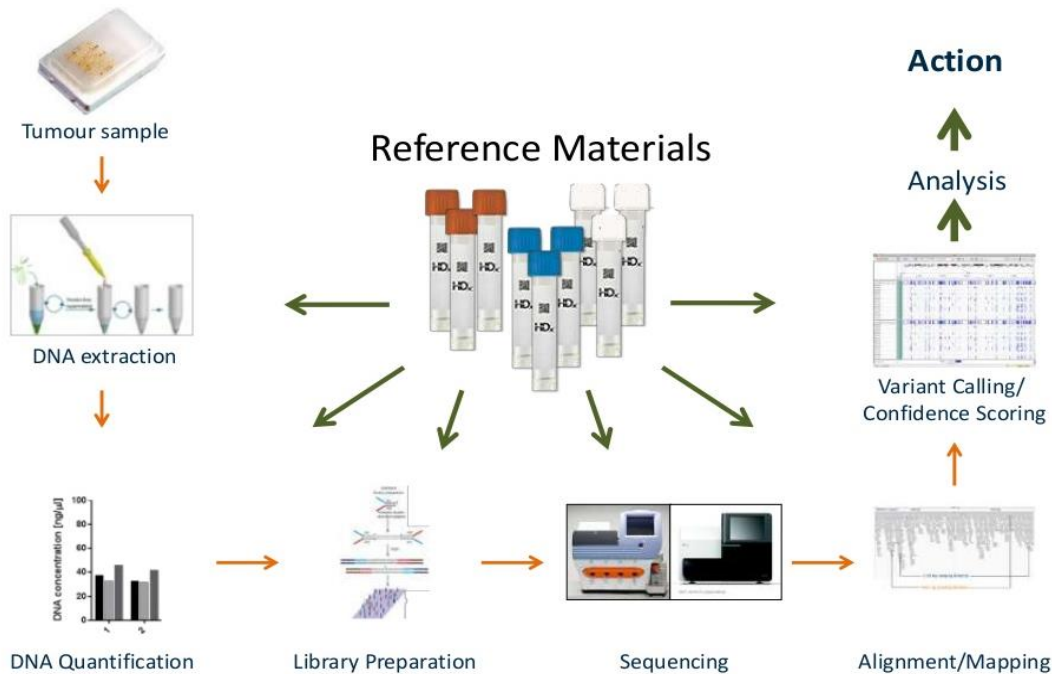


**BATJ**

Bio Applied Technologies Joint, Inc.

6331 Nancy Ridge Dr. #A , San Diego, CA 92121; (858) 622-9498; www.batj.net

## NGS Amplicon Panel Sequencing



## Ultra-deep Sequencing of Commercial or Customized Amplicon Panels

- **Ion AmpliSeq™ Cancer Hotspot Panel v2** - targeting "hot spot" regions of 50 oncogenes which applied with 207 pairs primers cover 2800 mutations on 23 pairs human chromosomes.
- **Ion AmpliSeq™ Comprehensive Cancer Panel** - targeting exons within 409 oncogenes and tumor suppressor genes with 16,000 primers.
- **Ion AmpliSeq™ Inherited Disease Panel** - targeting exons of over 300 genes associated with over 700 inherited diseases including neuromuscular, cardiovascular, developmental, and metabolic diseases



CONSTRUCT  
LIBRARY



PREPARE  
TEMPLATE



RUN  
SEQUENCE



ANALYZE  
DATA

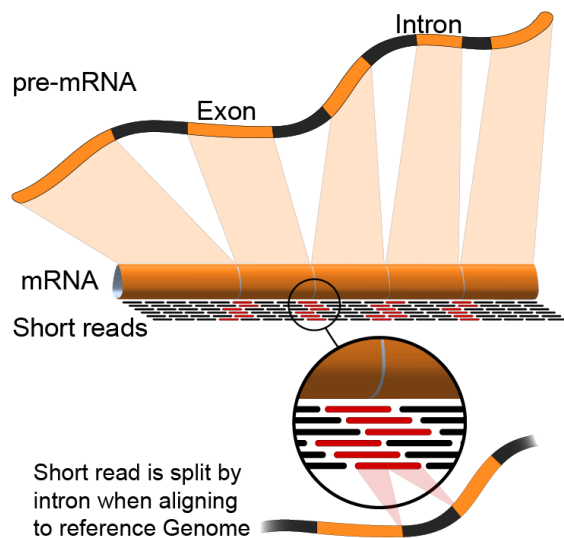


**BATJ**

Bio Applied Technologies Joint, Inc.

6331 Nancy Ridge Dr. #A , San Diego, CA 92121; (858) 622-9498; [www.batj.net](http://www.batj.net)

## RNA-Seq Service by NGS



- **A highly sensitive and accurate tool for measuring expression across the transcriptome**
- **Enable the detection of transcript isoforms, gene fusions, single nucleotide variants, allele-specific gene expression and other features without the limitation of prior knowledge**
- **Can be applied to any species, even if reference sequencing is not available**
- **Key RNA-Seq Methods: mRNA Sequencing, Targeted RNA Sequencing, Ribosome Profiling, Ultra-Low-Input and Single-Cell RNA-Seq, Total RNA Sequencing (rRNA depleted), Small RNA Sequencing, RNA Exome Capture Sequencing**



CONSTRUCT  
LIBRARY



PREPARE  
TEMPLATE



RUN  
SEQUENCE



ANALYZE  
DATA