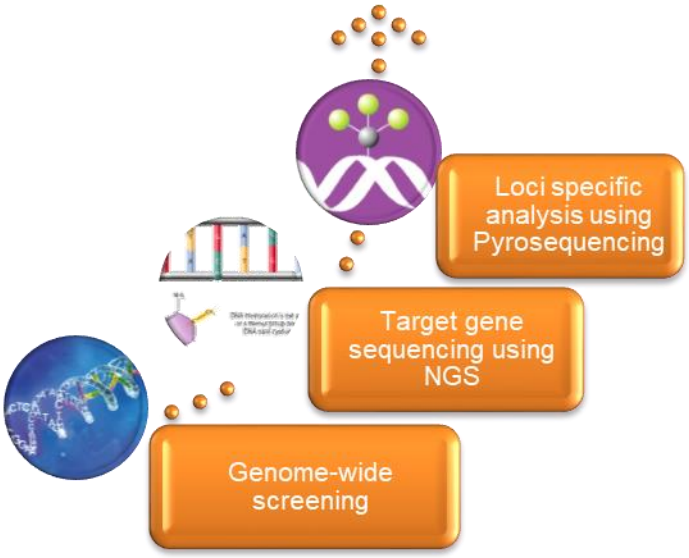
EpigenDx
Solutions for Genomic and Epigenomic Research
96 South Street
Hopkinton, MA 01748
Tel: (508) 497-9400
Email: info@epigendx.com
www.epigendx.com

NGS Targeted Sequencing

Targeted Gene Sequencing

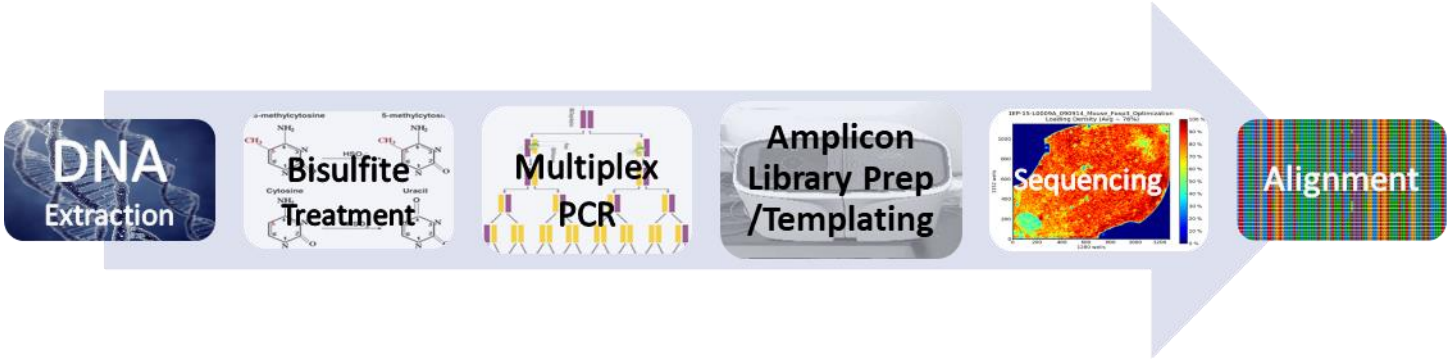
EpigenDx is focused on targeted disease gene panel sequencing and targeted gene bisulfite sequencing using Next-Gen Sequencing (NGS) technology.

Coupled with genome-wide DNA methylation screening and loci specific methylation analysis using Pyrosequencing, EpigenDx provides a full solution for genetic and epigenetic biomarker discovery and validation.



The services include:

- Gene Panel Assay Design
- Library Construction
- Template Preparation and QC
- NGS sequencing using Ion S5™ system
- Sequencing analysis
  - DNA methylation analysis
  - Disease panel sequencing and SNP genotyping
  - Allele specific expression analysis and allele specific methylation analysis using extensive bioinformatics analysis



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tNGBS vs. Pyrosequencing

Methylation Analysis – Single Base Pair Resolution

	NEXT-GEN SEQUENCING (ION TORRENT)	PYROSEQUENCING
Technology	Sequencing by Synthesis – Hydrogen Ion Detection	Sequencing by Synthesis – Fluorescence Detection
Methylation Calculation	# of methylated reads/ # total reads (at each CpG)	Average in each sample (Calculated by RLU at each CpG)
Advantages	• Can run many assays on many samples simultaneously • Extremely sensitive in detecting small changes in methylation due to ability to look at single reads	• Rapid Results • Reproducible • 92 samples per run • Can successfully detect ~5-10% differences in methylation
Disadvantages	• Longer turnaround time	• Run only 1 assay at a time
When to use/Cost Effectiveness	Best for **more** than 20 assays with smaller sample sets	Best for **fewer** than 20 assays with larger sample sets
PCR Bias and Validation	All assays are validated by EpigenDx Methylation Controls