

High-Definition Mapping System™

Whole Genome Mapping...Now in High Definition



Complete High-Definition Mapping Solution

- HD-Mapping™ instrument
- Electronic nanochannel detector chips
- Complete run reagent cartridge
- Sample prep kit
- Comprehensive control and data analysis software

High Performance

- Electronic detection
- Single-molecule, high-resolution, long-range
- Unparalleled sensitivity, accuracy, and precision

Convenient

- Straightforward DNA isolation protocols
- Limited hands-on time sample prep
- Simple system operation
- Intuitive GUI

Cost Effective

- Low cost instrument and operation
- Suitable for every lab
- Minimal computational and storage resources required

Versatile

- Support for a variety of applications
- Data used independently or in combination with NGS



High-Definition Mapping System



Nanodetector chip



Complete-run reagent capacity

Key Applications

De Novo Map Assembly

Hybrid Assembly

Metagenomics

Variant Verification

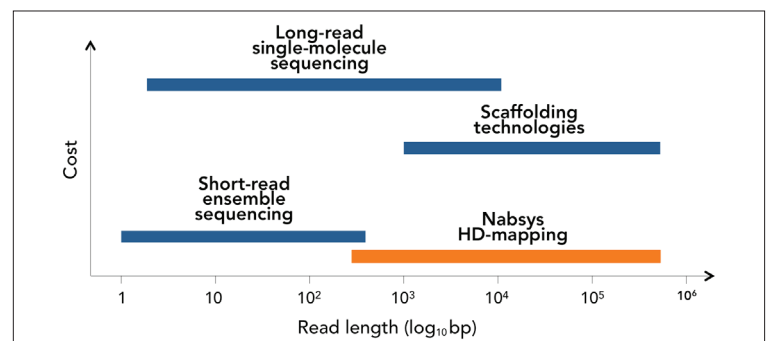
SV Discovery

Strain Identification

Why HD-Mapping

Cost-Effective Genomic Analysis with HD-Mapping

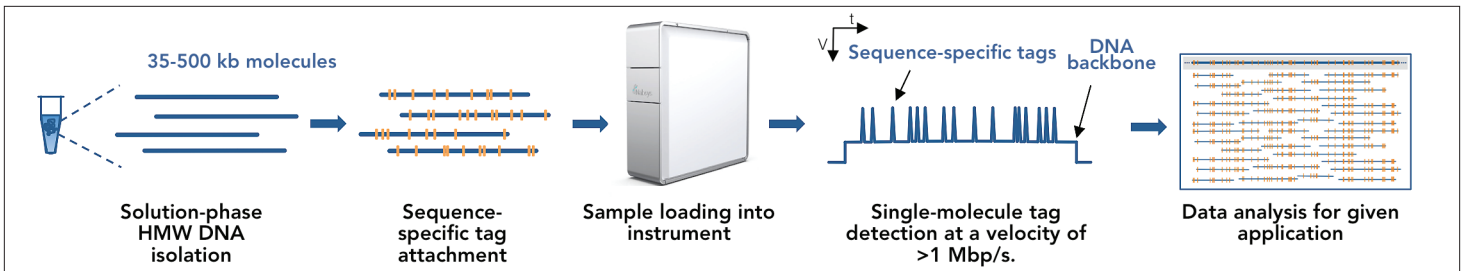
- Complements NGS by providing genome structure information unavailable from short reads
- Significantly lower cost per sample than existing long-read and scaffolding technologies



High-Definition Mapping, HDM™ provides routine, accurate, cost-effective analysis of genomic structural information. The HD-Mapping platform employs fully electronic detection of tagged single DNA molecules to provide significantly higher sensitivity, accuracy, scalability, and speed of detection, in comparison to existing mapping technologies. Single-molecule reads, hundreds of kilobases in length, have high resolution and precision, resulting in high information content per read. This enables a variety of applications for small and large genomes, including *de novo* map assembly, structural variant analysis, hybrid assembly, metagenome characterization and strain identification.

Current long-read sequencing technologies suffer from high cost, high per-read error rates, and are unable to achieve sufficient read length to resolve complex structures, such as repeat regions. Scaffolding and optical mapping technologies provide additional information, but are costly and have inherent resolution limitations. Nabsys HD-Mapping provides the necessary long-range information with high resolution to resolve even the most difficult regions of genomes.

Intuitive Workflow



Specifications	High-Definition Mapping System
Description	High performance high-throughput electronic whole-genome mapping platform
Part Number	900-00002
Dimensions	5 in W X 17 in H X 17 in D 12.7 cm X 43 cm X 43 cm
Weight	44 lbs. 21kg
Sample processing	Uses Nabsys genomic analysis electronic nanodetector chip and reagents
Applications	<i>De novo</i> map assembly, hybrid assembly, variant verification, strain identification, metagenomics, structural variant discovery
System Control	System includes: Notebook computer interface via ethernet with Nabsys Operating Software installed
Installation / setup	Customer Installable
Power Requirements	100-240 VAC 500 VA, 50-60Hz
Operating environment	15-32°C
Regulatory Labeling	CE, ETL Mark (for Product Safety), WEEE
Safety	Complies with Low Voltage Directive 2006/95/EC. Certified to IEC/EN/ANSI/UL 61010-1:2010 and CAN/CSA C22.2 No. 61010-1, "Safety Requirements for Electrical Equipment for Measurement, Control and Laboratory Use, Part 1: General Requirements"
EMC	Complies with Class A Industrial/Scientific/Medical (ISM) equipment under EN 61326-1 for EU EMC Directive 2014/30/EU. FCC Part 15 Class A radio emissions requirements for the USA and ICES-003 Class A for Industry Canada

Consumables	Description
900-00006	HD-Mapping Sample Analysis Kit Includes: Electronic nano-channel detector chips and HD-Mapping Reagent Cartridge
900-00007	HD-Mapping Sample Preparation Kit for sequence specific tagging



Nabsys 2.0 LLC • Tel. +1 401 276-9100 • Fax +1 401 276-9122 • Web: www.nabsys.com
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 For additional information, please contact us at: info@nabsys.com