MammaPrint BluePrint NGS Decentralized performance in your lab

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MammaPrint® BluePrint®

Breast Cancer Recurrence and Molecular Subtyping Kit

mammaprint blueprint
Breast Cancer Recurrence & Molecular Subtyping Kit

Keep Control
Agendia is bringing the power of MammaPrint and BluePrint to your lab

agendia
Decoding Cancer

Why choose MammaPrint?

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oding Cancer

mammaprint
70-Gene Breast Cancer Recurrence Assay

- **Proven:** Following the publication of the MINDACT trial in August 2016, MammaPrint is currently the only genomic test of its kind backed by the highest (1A) level of evidence, giving you confidence in personalizing treatment options for your patient
- **Binary:** MammaPrint provides a high and low result of a patients' risk of breast cancer recurrence - no intermediate outcome
- **Recommended:** MammaPrint has been assessed and is recommended by major national and international Breast Cancer clinical practice guidelines including ASCO, St. Gallen and ESMO
- **Inclusive:** Validated in women of all ages, ethnicities, hormone receptor and HER2 status
- **CE-Marked:** CE Marking targeted for late-2017 to early-2018

blueprint
80-Gene Molecular Subtyping Assay

BluePrint 80-gene test

- In vitro diagnostic microarray-based test to assess breast cancer molecular subtypes (Luminal-type, HER2-type, Basal-type)

Why decentralize?

Situation	• Many large hospitals have Diagnostics Core Facility with NGS installed base and like to control turnaround time and processes • Smaller hospitals doesn't have sufficient volume to invest efforts to implement a decentralized approach • Payers usually prefers decentralized tests
Solution	1. **Continue providing MammaPrint/BluePrint through centralized lab services** in Agendia CLIA CAP certified laboratories (Irvine, US and Amsterdam, NL) 2. **Create a "capture kit" and decentralize MammaPrint BluePrint technologies at Reference partner laboratories** across Europe

1. Centralized offering
(services to smaller hospitals)

2. Decentralized offering
(kits to Large Reference Laboratories)

Decentralization strategy

Technology requirements for decentralized strategy:

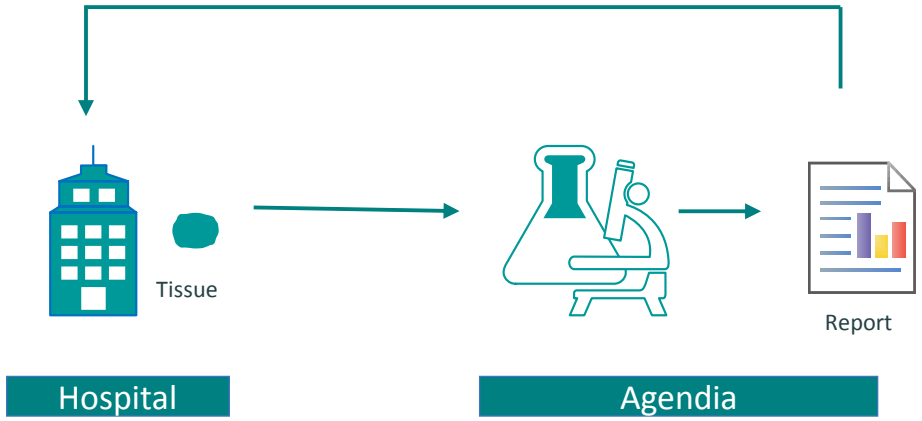
- Must be easy to use/implement as part of existing workflow
- No or limited investment required for large hospitals
- Good performance with formalin-fixed paraffin-embedded (FFPE) tissue

Next Generation RNA-Seq technology

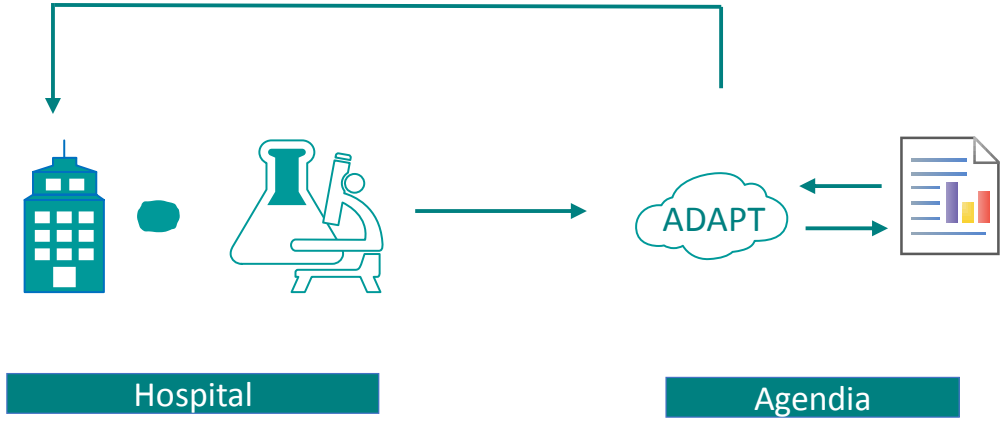
- Is becoming a standard method for transcriptome analysis
- Low background signal with a large dynamic range of expression levels
- Multiple ongoing efforts to establish benchmark standards for technical and analytical best practices
- Potential to revolutionize clinical testing

Decentralization strategy

Centralized setting
(Microarray, NGS)



Decentralized setting
(NGS)



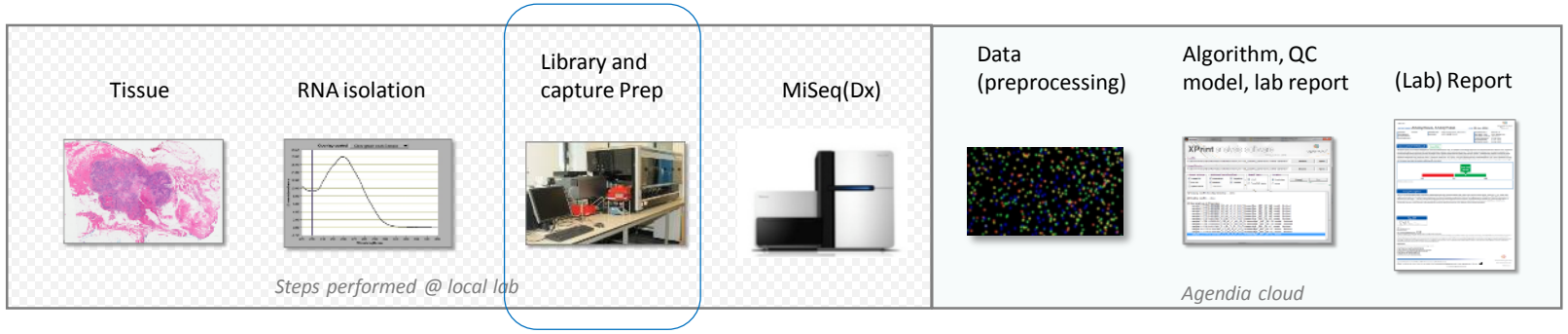
a high-performance cloud-based genomic analysis platform
- Web portal for Data upload & report delivery
- Secure and compliant environment
- Local data centers (per country)
- Data residency control
- Customer data are strictly segregated and encrypted at all times

Decentralization strategy

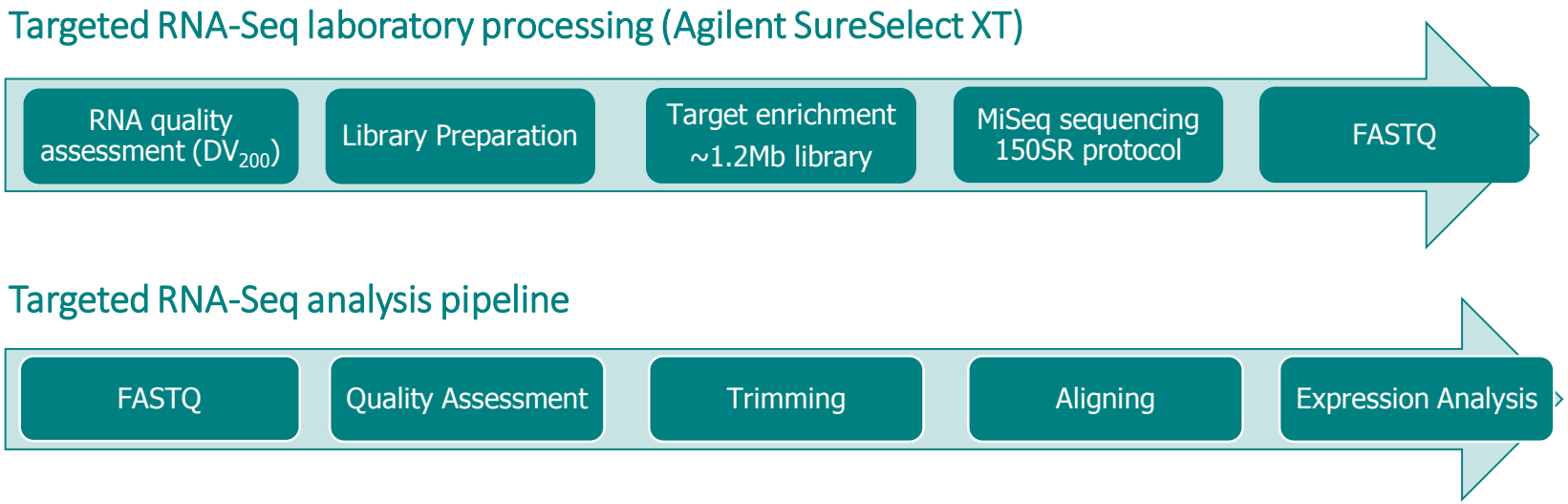
"Same" test:
- Total RNA isolated from FFPE material
- gene expression of the 70 genes (intensity vs read counts)

Centralized workflow

Decentralized workflow



Technical

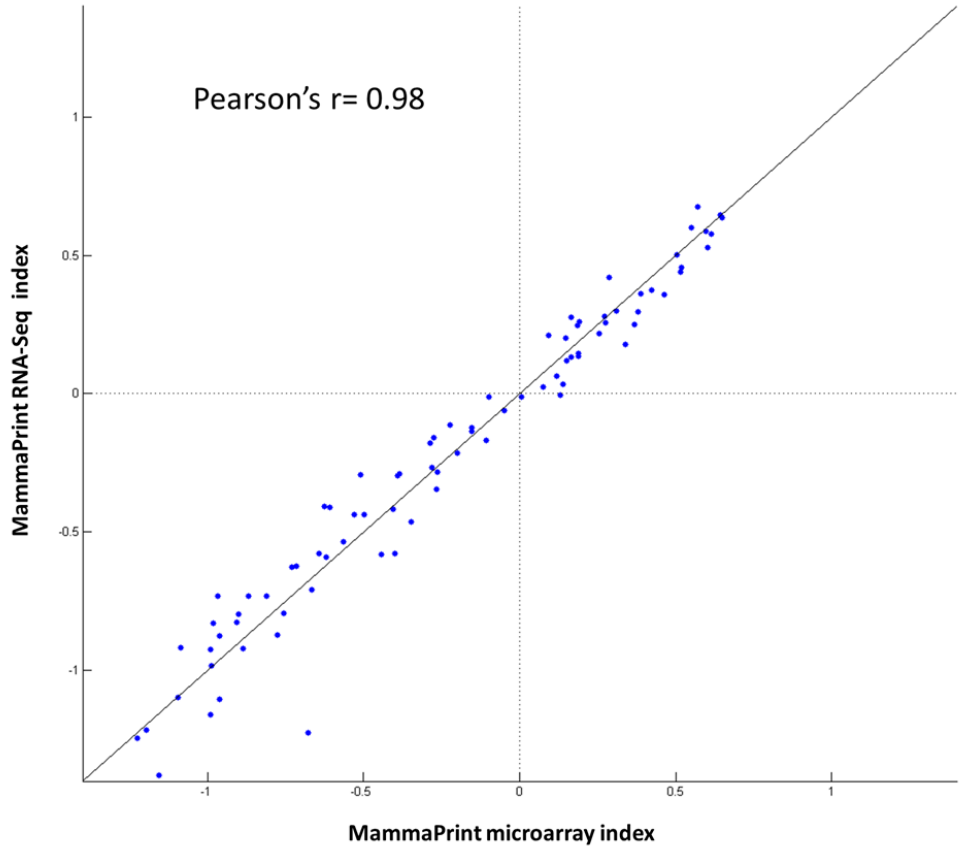


- Total RNA Isolated using Qiagen RNeasy FFPE kit
- MammaPrint/BluePrint capture kit based on Agilent Sure select
- Illumina MiSeq
- MammaPrint 70-gene and BluePrint 80-gene signatures successfully mapped to the RNA-Seq genes
- Gene counts (reads) for NGS normalized using Counts per Million (CPM) method
- 96.3% reads were mapped to genes (hg19 build 37) with 74.8% reads on-target

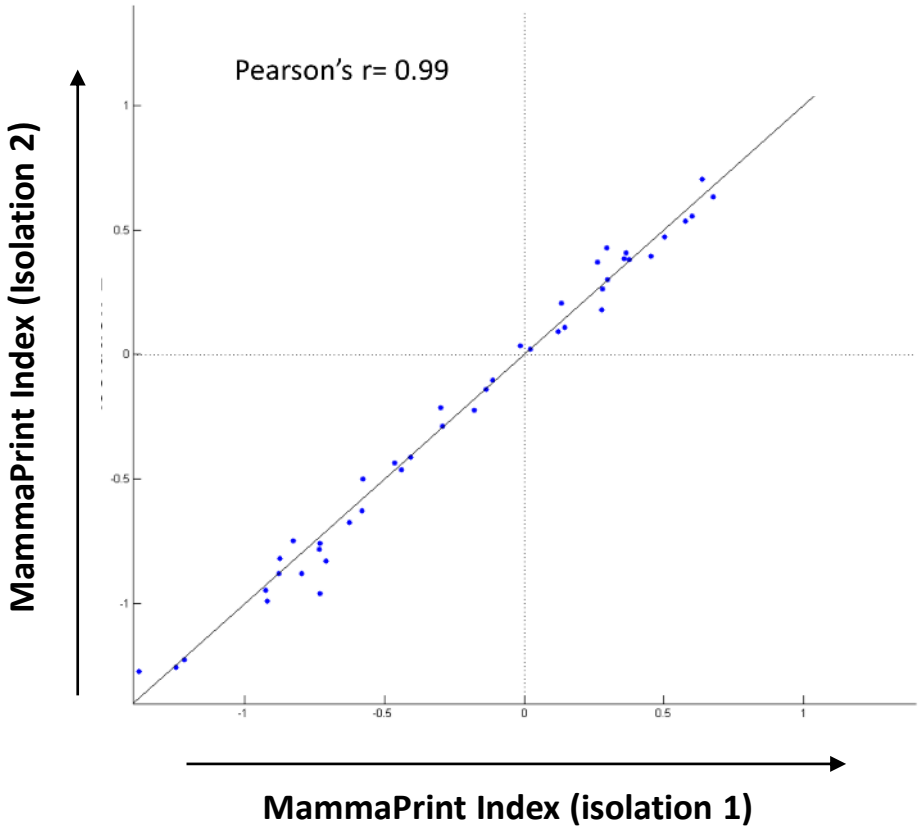
- 85+ FFPE samples processed with both on Microarray and RNA-Seq technologies as method comparison
- 43 FFPE samples underwent two independent RNA isolations and processed with RNA-Seq technology
- 1 FFPE control samples measured over time and sequenced in 14 consecutive runs

Results. Comparison MammaPrint on Microarray vs NGS

- Two platforms measure the same thing: gene expression
- Very high similarity between the two platforms as expected



Results: Multiple isolations

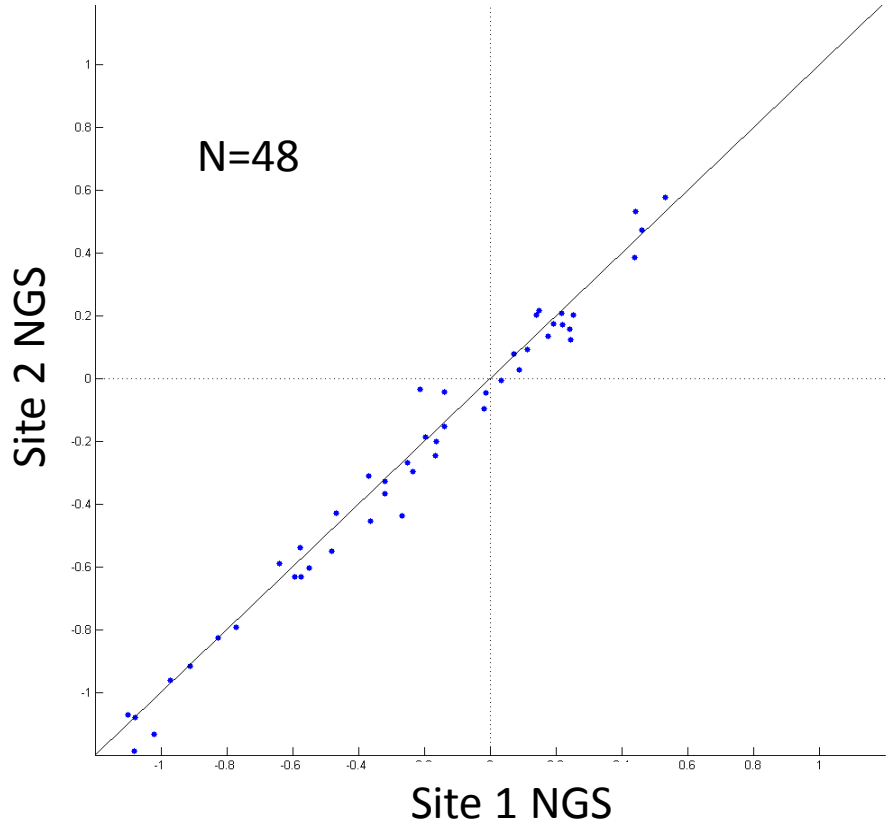


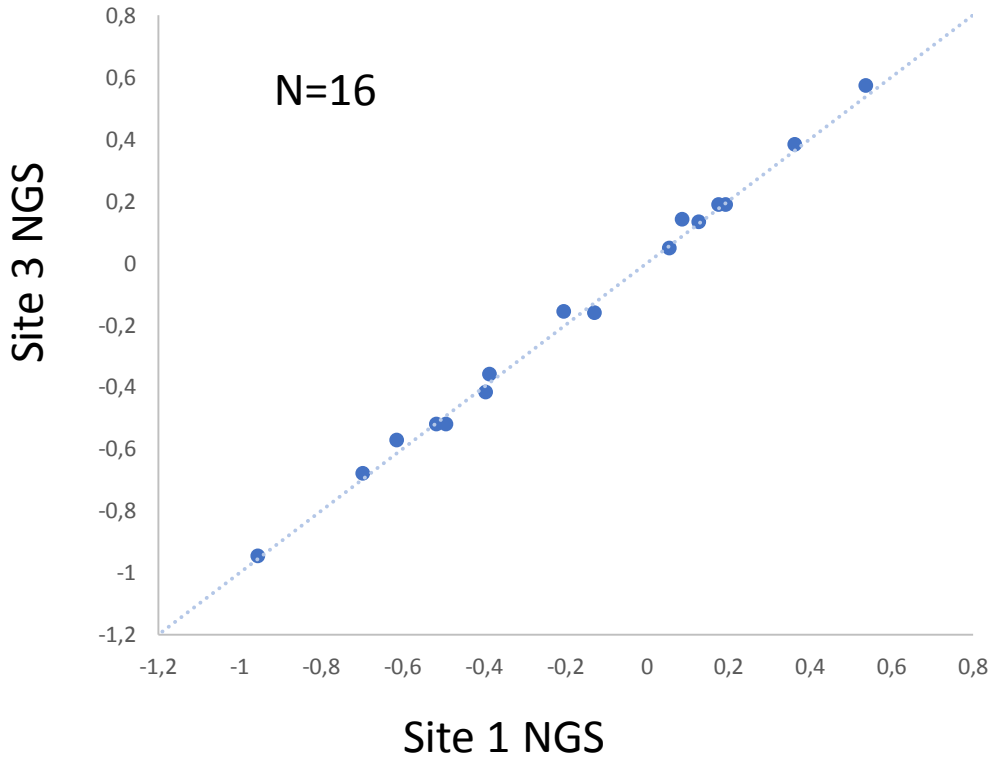
- 43 samples
- 2 isolations
- MammaPrint NGS

- Pearson's r= 0.99

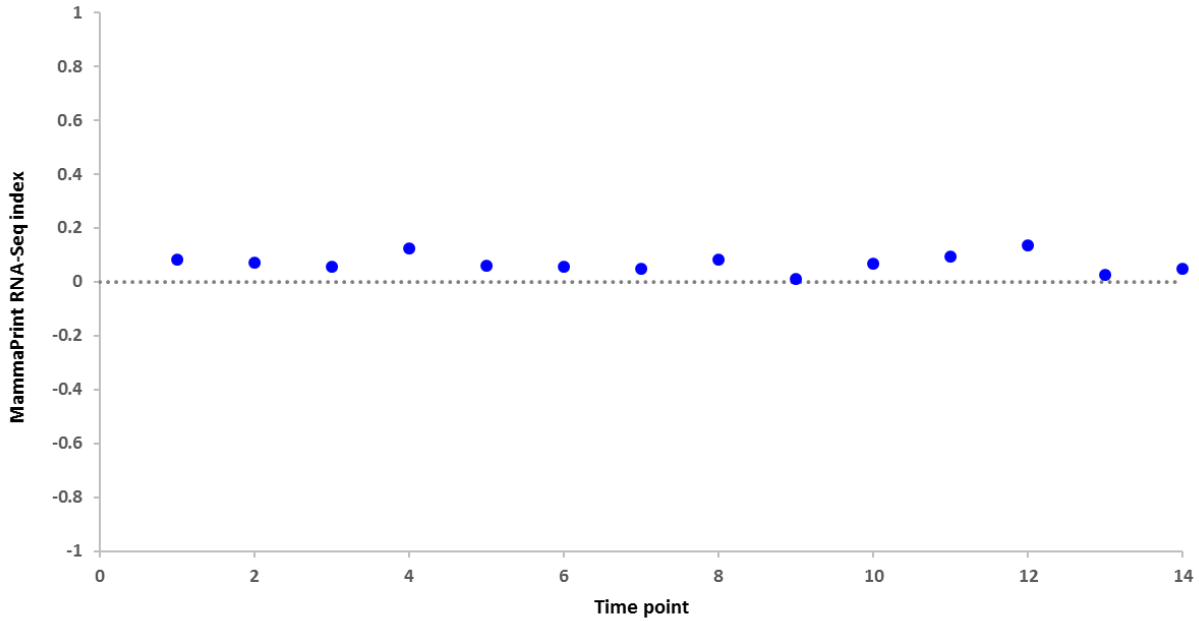
Results: Multiple sites (same RNA)

Concordance: 98.4%





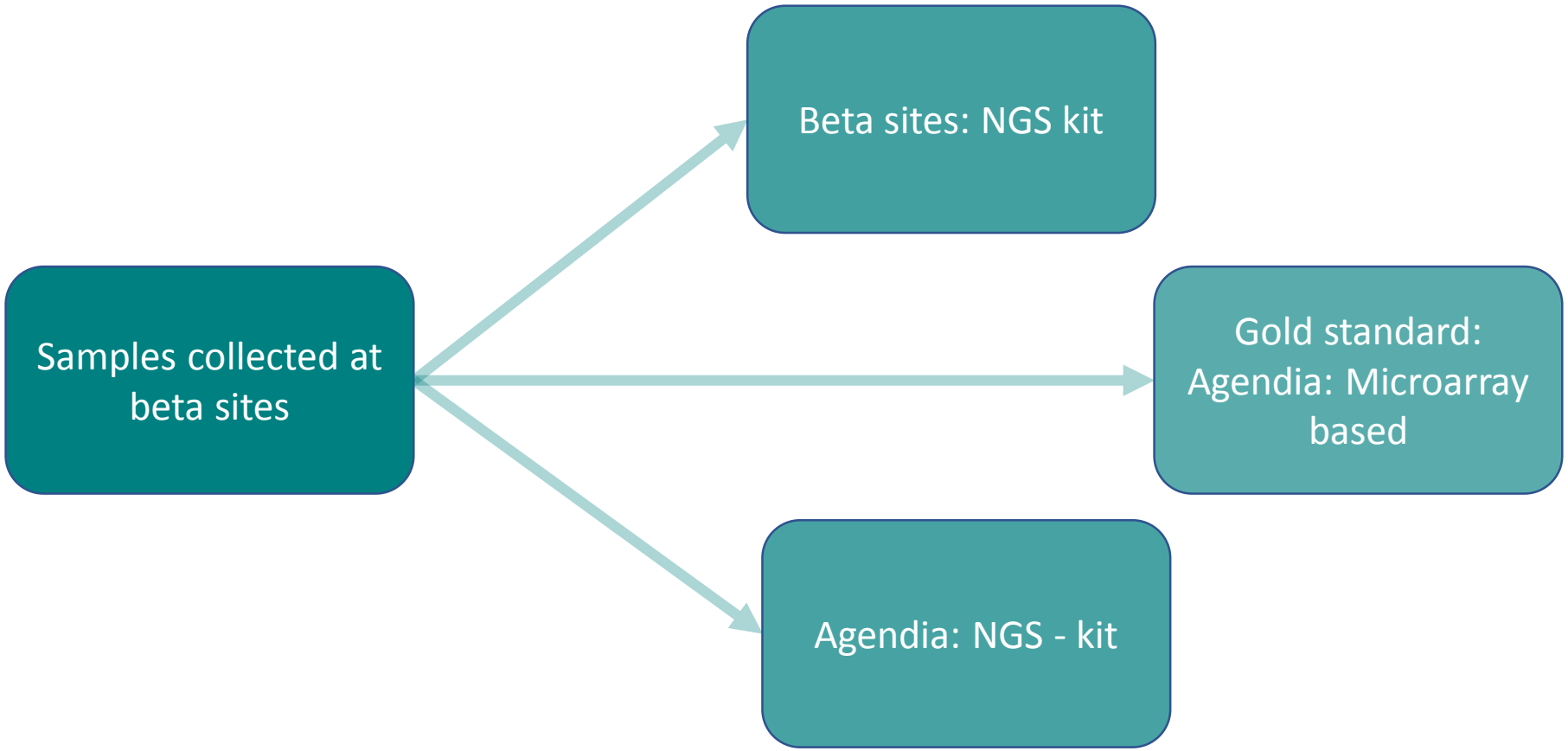
Results: Repeated measurements (same RNA)



What next: beta testing

Samples:

MammaPrint + BluePrint:



Conclusion and next steps:

MammaPrint and BluePrint:
From the sample to the result

Technical performance

- FFPE MammaPrint and BluePrint gene signature results generated from Targeted RNA-Seq technology, are highly similar to diagnostic test results.
- currently tested at multiple beta sites
- Further work assessing the stability and reproducibility are ongoing

Clinical performance:

- assessment ongoing

Regulatory:

- CE-Marked: CE Marking targeted for late-2017 to early-2018

The MammaPrint 70-Gene Breast Cancer Recurrence Test and the BluePrint80-Gene Molecular Subtyping Test will soon be available outside the US in kit format for use on the Illumina MiSeq™ Next Generation Sequencing Instrument

Thank you!


mammaprint
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