Data analysis and reporting for the TruSight™ Oncology 500 portfolio

Integrated bioinformatics provide sample-to-insight workflows for solid tumor CGP

DRAGEN™ secondary analysis across the entire TruSight Oncology 500 portfolio reduces analysis time by 2-10×. Run DRAGEN TruSight Oncology 500 and DRAGEN TruSight Oncology 500 ctDNA Analysis Software locally with an on-premises DRAGEN server or in the cloud via Illumina Connected Analytics, provided with each kit. Options for customized reporting and insights include Illumina Connected Insights and Velsera Clinical Genomics Workspace (CGW).

<table>
<thead>
<tr>
<th>Specimen</th>
<th>Extraction</th>
<th>Library prep</th>
<th>Sequencing</th>
<th>Variant calling</th>
<th>Insights and reporting</th>
</tr>
</thead>
<tbody>
<tr>
<td>TruSight Oncology 500</td>
<td>FFPE</td>
<td>DNA/RNA extraction kits</td>
<td>TruSight Oncology 500 kit</td>
<td>NextSeq™ 550 or NextSeq 550Dx System</td>
<td>DRAGEN TruSight Oncology 500 Analysis on local DRAGEN server or with Connected Analytics</td>
</tr>
<tr>
<td>TruSight Oncology 500 High-Throughput</td>
<td>FFPE</td>
<td>DNA/RNA extraction kits</td>
<td>TruSight Oncology 500 High-Throughput kit</td>
<td>NovaSeq 6000 or NovaSeq 6000Dx System</td>
<td>DRAGEN TruSight Oncology 500 Analysis on local DRAGEN server or with Connected Analytics</td>
</tr>
<tr>
<td>TruSight Oncology 500 ctDNA v2</td>
<td>Blood</td>
<td>cfDNA extraction kits</td>
<td>TruSight Oncology 500 ctDNA v2 kit</td>
<td>NovaSeq 6000 System</td>
<td>DRAGEN TruSight Oncology 500 ctDNA Analysis on local DRAGEN server or with Connected Analytics</td>
</tr>
</tbody>
</table>

≈ 5-day workflow for comprehensive genomic profiling (CGP)

* NextSeq 550Dx Instrument in research mode only. † NovaSeq 6000Dx Instrument in research mode only. Requires separate, standalone DRAGEN server if local secondary analysis is desired. ‡ TruSight Oncology 500 High-Throughput is also compatible with the NextSeq 550 System and NextSeq 550Dx Instrument (in research mode) for up to 8 samples. § NovaSeq 6000Dx Instrument in research mode has not been extensively tested, but is considered technically compatible. Requires separate, standalone DRAGEN server if local secondary analysis is desired. ** Not available in all countries. Illumina Connected Insights supports user-defined tertiary analysis through API calls to third-party knowledge sources.
**Better variant calling with DRAGEN analysis**

**Accurate**
- DRAGEN secondary analysis brings award-winning accuracy to TruSight Oncology 500
- 99.83% accuracy score with the precisionFDA Truth Challenge V2\(^1,^2\)

**Comprehensive**
- Comprehensive coverage of all variant classes: SNVs, indels, CNVs, MNVs, SVs; immuno-oncology and other gene signatures: TMB, MSI, and HRD (GIS)*
- New beta features\(^\dagger\) available with TruSight Oncology 500 HRD assay enable reporting of tumor fraction, ploidy, absolute copy numbers, and gene-level LOH

**Fast**
- DRAGEN secondary analysis completes 2-10× faster than other pipelines

**Flexible**
- Local and cloud-based analysis allow labs to choose an option that best suits their needs
- User interface designed for general users as well as bioinformatics professionals

**Easy to use**
- User-friendly interface to set up and configure analysis
- No manual touchpoints available with automated data transfer and analysis kickoff

**Scalable**
- Cloud-based analysis enables scaling without additional hardware investment
- Reducing manual touchpoints with automation allows scalability without adding headcount

<table>
<thead>
<tr>
<th>Assay</th>
<th>Third-party server(^a)</th>
<th>DRAGEN Server v4</th>
</tr>
</thead>
<tbody>
<tr>
<td>TruSight Oncology 500 or TruSight Oncology 500 High-Throughput</td>
<td>No. of samples(^b)</td>
<td>Analysis time(^c)</td>
</tr>
<tr>
<td>8 tissue biopsy</td>
<td>8</td>
<td>5.5 hrs</td>
</tr>
<tr>
<td>16 tissue biopsy</td>
<td>16</td>
<td>12 hrs</td>
</tr>
<tr>
<td>32 tissue biopsy</td>
<td>32</td>
<td>18 hrs</td>
</tr>
<tr>
<td>72 tissue biopsy</td>
<td>72</td>
<td>24 hrs</td>
</tr>
<tr>
<td>TruSight Oncology 500 ctDNA v2</td>
<td>24 liquid biopsy</td>
<td>216 hrs (9 days)</td>
</tr>
</tbody>
</table>

\(a\). Third-party server: c5.9xlarge instance (36 vCPU, 72 GB memory).
\(b\). Number of samples processed in a single batch per week.
\(c\). Approximate analysis times are based on actual runs, analysis times will vary.

\* HRD (GIS) is for tissue workflows only (not available with TruSight Oncology 500 ctDNA)
\(\dagger\) Beta features have not been verified by Illumina. See customer release notes for v2.5+ for more details.

SNV, single nucleotide variant; indel, insertions and deletions; CNV, copy number variant; MNV, multinucleotide variant; SV, structural variant; TMB, tumor mutational burden; MSI, microsatellite instability; GIS, genomic instability; LOH, loss of heterozygosity

**References**