



**Test name** : SSTP Lung / SSTP Colon / SSTP GIST/Melanoma  
**Turnaround time** : 10 working days from day of test set-up  
**Test Set-up** : Every Tuesday and Friday

The Somatic Solid Tumour Panel (SSTP) assay is a small panel amplicon based next generation sequencing (NGS) assay that can detect single nucleotide variants (SNVs) and short insertion/deletions (delins) in 15 to 18 genes. It can be used for mutational testing of lung cancers, colorectal cancers, gastrointestinal stromal tumours (GISTs), melanomas and other solid tumours where the genomic alterations covered by the assay is relevant. It does not cover copy number variations (CNVs), gene fusions or other genomic alterations.

While the assay is subdivided into Lung, Colon and Gastrointestinal Stromal Tumour (GIST) / Melanoma panels for these tumour types, other tumour types can also be tested using any of these panels as long as the relevant genes of interest are covered. For example, mutational testing for *PIK3CA*, *AKT1* and *PTEN* in breast cancers or *IDH1*, *IDH2* and *BRAF* in brain tumours can be performed using the SSTP Lung panel as these genes are included in the panel. Similarly, *POLE* testing for endometrial cancers can also be performed using the SSTP Lung panel as it covers the *POLE* gene.

### Specimen requirements

Unstained formalin fixed paraffin embedded (FFPE) tissue sections on uncoated slides (8 sections of 8 µm thickness for large resection / excision specimens or 15 sections of 5 µm thickness for small biopsy specimens) together with 1 H&E slide for each specimen will be required for this assay. Sections from cell block specimens are also acceptable (15 sections of 5 µm thickness). The tissue/cell block sections must contain at least 20% of tumour cells.

Specimens should be sent to 20 College Road, Academia building, Diagnostic Tower Level 10, Histopathology Lab, Department of Anatomical Pathology, Singapore General Hospital, Singapore 169856. Any queries can be directed to the Anatomical Molecular Laboratory (ATOM) at (65) 6576 7191 or Histopathology Laboratory at (65) 6321 4956.



Table 1. SSTP Lung assay - List of genes and their corresponding exons covered by the assay

Gene	RefSeq ID	Exon
<i>AKT1</i>	NM_005163	Exon 3
<i>ALK</i>	NM_004304	Exon 21-25
<i>BRAF</i>	NM_004333	Exon 11 Exon 15
<i>CTNNB1</i>	NM_001904	Exon 3
<i>EGFR</i>	NM_005228	Exon 12 Exon 18 Exon 19 Exon 20 Exon 21
<i>ERBB2</i>	NM_004448	Exon 19 Exon 20 Exon 21
<i>ERBB4</i>	NM_005235	Exon 3 Exon 4 Exon 6 Exon 7 Exon 8 Exon 9 Exon 15 Exon 23
<i>FGFR3</i>	NM_000142	Exon 7 Exon 9 Exon 14 Exon 16 Exon 18
<i>IDH1</i>	NM_005896.3	Exon 4 Exon 6
<i>IDH2</i>	NM_002168	Exon 4
<i>KRAS</i>	NM_004985	Exon 2 Exon 3 Exon 4
<i>MET</i>	NM_000245	Exon 2 Exon 13-14 Exon 16 Exon 19
<i>NRAS</i>	NM_002524	Exon 2 Exon 3 Exon 4
<i>PIK3CA</i>	NM_006218	Exon 10 Exon 14 Exon 21
<i>POLE</i>	NM_006231	Exon 6 Exon 7 Exon 9 Exon 11

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		Exon 12 Exon 13 Exon 14 Exon 20 Exon 21 Exon 25 Exon 30 Exon 32 Exon 33 Exon 39 Exon 44 Exon 45 Exon 47
<i>PTEN</i>	NM_000314	Exon 1 Exon 3 Exon 6 Exon 7 Exon 8
<i>STK11</i>	NM_000455	Exon 1 Exon 4 Exon 5 Exon 6 Exon 8
<i>TP53</i>	NM_000546	Exon 2 Exon 4 Exon 5 Exon 6 Exon 7 Exon 8 Exon 10



Table 2. SSTP Colon assay - List of genes and their corresponding exons covered by the assay

Gene	RefSeq ID	Exon
<i>ALK</i>	NM_004304	Exon 22 Exon 23 Exon 25
<i>APC</i>	NM_000038	Exon 6 Exon 7 Exon 9 Exon 10 Exon 12 Exon 14 Exon 16
<i>BRAF</i>	NM_004333	Exon 11 Exon 15
<i>CTNNB1</i>	NM_001904	Exon 3
<i>EGFR</i>	NM_005228	Exon 12 Exon 18 Exon 19 Exon 20 Exon 21
<i>ERBB2</i>	NM_004448	Exon 19 Exon 20 Exon 21
<i>ERBB4</i>	NM_005235	Exon 3 Exon 4 Exon 6 Exon 7 Exon 8 Exon 9 Exon 15 Exon 23
<i>KIT</i>	NM_000222	Exon 8 Exon 9 Exon 11 Exon 13 Exon 14 Exon 17
<i>KRAS</i>	NM_004985	Exon 2 Exon 3 Exon 4
<i>NRAS</i>	NM_002524	Exon 2 Exon 3 Exon 4
<i>PDGFRA</i>	NM_006206	Exon 12 Exon 14 Exon 18
<i>PIK3CA</i>	NM_006218	Exon 10 Exon 14

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		Exon 21
<i>PIK3R1</i>	NM_181523	Exon 9 Exon 10 Exon 11 Exon 12 Exon 13 Exon 14 Exon 15
<i>PTEN</i>	NM_000314	Exon 1 Exon 3 Exon 6 Exon 7 Exon 8
<i>RNF43</i>	NM_017763	Exon 2 Exon 3 Exon 4 Exon 5 Exon 6 Exon 7 Exon 8 Exon 9 Exon 10
<i>TP53</i>	NM_000546	Exon 2 Exon 4 Exon 5 Exon 6 Exon 7 Exon 8 Exon 10
<i>ZNRF3</i>	NM_001206998	Exon 1 Exon 2 Exon 3 Exon 4 Exon 5 Exon 6 Exon 7 Exon 8 Exon 9

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**Table 3. SSTP GIST/Melanoma assay - List of genes and their corresponding exons covered by the assay**

Gene	RefSeq ID	Exon
<i>AKT1</i>	NM_005163	Exon 3
<i>APC</i>	NM_000038	Exon 6 Exon 7 Exon 9 Exon 10 Exon 12 Exon 14 Exon 16
<i>BRAF</i>	NM_004333	Exon 11 Exon 15
<i>ERBB4</i>	NM_005235	Exon 3 Exon 4 Exon 6 Exon 7 Exon 8 Exon 9 Exon 15 Exon 23
<i>FGFR1</i>	NM_023110	Exon 4 Exon 7
<i>FGFR2</i>	NM_000141	Exon 7 Exon 9 Exon 12
<i>FGFR3</i>	NM_000142	Exon 7 Exon 9 Exon 14 Exon 16 Exon 18
<i>KIT</i>	NM_000222	Exon 8 Exon 9 Exon 11 Exon 13 Exon 14 Exon 17
<i>KRAS</i>	NM_004985	Exon 2 Exon 3 Exon 4
<i>PDGFRA</i>	NM_006206	Exon 12 Exon 14 Exon 18
<i>PIK3CA</i>	NM_006218	Exon 10 Exon 14 Exon 21
<i>NF1</i>	NM_001042492	Exon 13 Exon 15 Exon 21

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		Exon 28 Exon 39 Exon 55 Exon 57
<i>NOTCH1</i>	NM_017617	Exon 26 Exon 27
<i>NRAS</i>	NM_002524	Exon 2 Exon 3 Exon 4
<i>TP53</i>	NM_000546	Exon 2 Exon 4 Exon 5 Exon 6 Exon 7 Exon 8 Exon 10