

Form A - Tissue Test Order Form

PATIENT INFORMATION

Note: Patient sticker can be used to avoid duplicate entry
FULL NAME
DATE OF BIRTH PATIENT ID / NRIC / FIN
GENDER PHONE NO.
ADDRESS
ETHNICITY
WARD & BED NO.

PAYMENT (please tick):

INPATIENT (for Parkway Hospitals Only) Refer to CDM codes stated for billing
BILL CLINIC (specify) PATIENT TO PAY OTHERS (specify)

PHYSICIAN INFORMATION

ORDERING PHYSICIAN NAME
CLINIC / HOSPITAL NAME, PHONE NO. AND ADDRESS (CLINIC STAMP MANDATORY)
REPORT PREFERENCE (FILL IN EMAIL OR FAX NO. IF SELECTED)
Email:
Fax No.:

PATIENT CLINICAL INFORMATION

CLINICAL DIAGNOSIS:
STAGE OF DISEASE: LOCALISED METASTATIC
HAS A CONFIRMATORY TISSUE BIOPSY BEEN DONE?
TREATMENT HISTORY
FIRST LINE:
SECOND LINE:
THIRD LINE:
OTHER LINE:

TEST INFORMATION (Refer to Gene List)

[SELECT ONE ONLY]
UNITED
UNITED CNS
Standard40 Tissue NGS
[APPLICABLE TO ANY SELECTED TEST]
I acknowledge that the age of the FFPE tissue block is more than 3 years and wish to proceed
I acknowledge that if tumor cellularity is less than 30%, test sensitivity may potentially be lowered, and wish to proceed

ORDERING PHYSICIAN'S SIGNATURE & DATE

I confirm that I have obtained the consent of the patient to: 1) perform the tests requested herein; 2) disclose his/her personal data stated herein to Parkway Laboratory Services Ltd ("PLS") and its Affiliates for (i) the purposes of carrying out of the tests requested and all other related matters before and after and (ii) for purposes stated in the Parkway Data Privacy Policy (available at https://www.parkwaypantai.com/privacy). The patient understands that the use, collection and disclosure of his/her personal data by PLS and its Affiliates shall be in accordance with the Parkway Data Privacy Policy. I acknowledge and agree that PLS may at any time, whether upon request from the patient or otherwise, disclose and release to the patient the patient's personal data, report and specimens. I indemnify PLS for any loss or damage which PLS and its Affiliates may suffer arising from or in connection with the release of the patient's personal data, report and specimens to the patient.

FOR LUCENCE'S LABORATORY USE

Empty box for Lucence's Laboratory Use

FOR PARKWAY LABORATORY SERVICES USE

Empty box for Parkway Laboratory Services Use

SPECIMEN INFORMATION

TISSUE COLLECTED AT (please tick):
IN-PATIENT HOSPITAL
WARD (please specify):

**Additional Comments [If any]:**

Somatic and germline variants may not be distinguishable in this test and germline variants with pathogenic implication may be detected.

Recommended age of tissue block should not exceed 3 years. Samples older than 3 years will be considered on a case-by-case basis and outcome of quality assessment of extracted nucleic acids.

All turnaround times for tests administered by Lucence Diagnostics Pte Ltd (“Lucence”) are provided as an indicative guide only and are based on Lucence’s experience of the time taken for the majority of such test results to be delivered. ‘Working day’ refers to Mondays-Fridays, 9am-6pm only, excluding Saturdays, Sundays, public holidays, and eves of public holidays. The cut-off time for sample receipt in Lucence laboratory is 5.00pm on working days. Samples that arrived in our laboratory after 5.00pm shall only be accepted the following working day. As the performance of the tests may require the input of third parties and involve factors that are not within Lucence’s control, Lucence is unable to guarantee the turnaround time. However, Lucence shall keep the ordering physician informed if there are any unusual delays. Lucence shall not be liable for any indirect, consequential or special damages or losses suffered by the ordering physician or the Patient in connection with the use of the services hereunder, including but not limited to any delays in the delivery of the test results.

The ordering physician undertakes that all necessary consents from the Patient to whom the Personal Data relates either have been obtained, or at the time of disclosure will have been obtained, for the disclosure of their personal data to Lucence, for Lucence’s collection, processing, use and/or disclosure for the services specified in this form and that such consents are valid and have not been withdrawn. For the purposes of this form, “Personal Data” means any data which can be used to identify an individual, either on its own or together with other data to which the ordering Physician or Lucence have access. Please refer to the Privacy Policy publicly available online at <https://www.lucence.com/privacy> for details on the management of personal data by Lucence.

The services provided by Lucence are subject to further terms and conditions which are found on the Lucence website at [www.lucence.com/order-terms](http://www.lucence.com/order-terms), all of which are incorporated herein this form by this reference. Such terms and conditions may be changed from time to time and are effective immediately upon posting such changes on the Lucence website. The aforementioned terms and conditions on the Lucence website do not apply to customers with existing service agreements; the terms of such existing service agreement shall supersede.

**FOR LUCENCE LABORATORY USE ONLY**

RECEIVED DATE AND TIME	CHANGES TO ORDERED TEST (IF DIFFERENT FROM PAGE 1) PLEASE ATTACH PROOF OF REQUEST
LUCENCE STAFF INITIALS AND DATE	DETAILS:
TOTAL NO. OF FFPE SECTIONS: _____	DATE AND TIME:
ORDER ID: _____	<u>CHECKED BY:</u>
LUCENCE ID: _____	<u>DATE AND TIME:</u>
SECONDARY ID: _____	
<input type="checkbox"/> SAMPLE ACCEPTED <input type="checkbox"/> SAMPLE REJECTED REASON: _____	

## Form B - Informed Consent and Authorization Form for Tissue Tests

### Instructions:

1. This form must be fully completed and signed by the patient.
2. If the patient is below 21 years old, has never been married and has sufficient capability to understand this procedure, this form should be signed by both the patient and the patient's parent/guardian. If the patient is below 21 years old, has never been married and does not have sufficient capability to understand this procedure, this form should be signed by the patient's parent/guardian.
3. If the patient is unable to give consent due to a lack of mental capacity, consent is required from either the appointed guardian (donee) or deputy who is duly authorised to give such consent; or where there is no appointed guardian (donee) or deputy, and in order of preference: the patient's spouse; adult son or daughter; either parent or guardian; an adult brother or sister; or any other person named by the patient as someone to be consulted on the matter in question or on matters of that kind.

### **GENERAL INFORMATION ABOUT TUMOR-DERIVED PLASMA/TISSUE DNA/RNA**

#### What is the purpose of the test?

Tumor-derived genomic testing is designed to investigate and look at the genetic profile of your tumour and to look for specific genomic alterations that may be affecting its growth. This information may help your physician determine what targeted therapies may be available to treat your cancer. The test is ordered after discussion and assessment by your physician and will only assess specifically for the clinical condition suspected.

#### What does it involve?

A sample of your blood, tissue and/or bodily fluids will be taken ("Sample Material") and sent to Lucence Diagnostics Pte Ltd ("Lucence") where it can be examined for genomic alterations. Lucence will then send your physician a detailed report with information about your tumour's genomic makeup and potential treatment options. Your physician and you can then evaluate the results along with other information such as your medical history and results from other tests to determine what next steps are right for you.

#### What are the risks and limitations of genomic analysis?

For plasma, the most common method of test is via a blood sample, which is removed via a needle. The risks associated with drawing blood are minimal. There may be temporary discomfort, pain, bruising and on rare instances infection.

For tissue and other bodily fluids, the doctor performing the procedure, or a designated representative or a healthcare provider would explain the risks and complications to you before you decide to have the genomic test. Genomic tests do not constitute a definitive test for the selected condition(s) in all individuals. This test should be one of many aspects used by your physician to help with a diagnosis and treatment plan, but it is not a diagnosis itself.

All results of the analysis and its implications should be discussed with your physician. There are some possible causes of inaccurate or inconclusive results. These include:

1. Sampling problems, e.g. freezing of samples during shipping, poor sample/specimen quality.
2. Technical problems, e.g. rare variation in the DNA/RNA of the individual, inability of test to detect rare or previously unknown mutations.
3. Presence of mutations or variations the significance of which is not yet understood.

#### Withdrawal from testing

You may withdraw from testing at any time, or choose not to learn of the results. If the analysis is already underway, however, you will be charged a fee determined by Lucence, based on services provided and any amounts paid will not be refunded.

#### Management of results / Personal Data

1. Personal data means data, whether true or not, about an individual who can be identified from that data; or from that data and other information to which the organization has or is likely to have access ("Personal Data"). The Personal Data Lucence may, from time to time collect from you include your name, nationality, date of birth, sex, e-mail address, telephone number, mailing address, or passport number, your image (in the form of photographs), your medical history, patient history, allergy information, test results of genetic analysis, and any other medical and health records.
2. Lucence may collect, use, disclose, process, and transfer your Personal Data for the following purposes, but always in accordance with applicable laws and regulations:
  - a. providing you with healthcare, diagnostic and other services of Lucence, its affiliates, partners and related companies and for its company processes;
  - b. administrative purposes (e.g., processing orders; collecting payment; creation and maintenance of medical and business records; verifying identity and conducting screenings, due diligence and credit checks; responding to your queries; addressing claims or disputes; compliance with internal policies; and enforcing obligations to Lucence);
  - c. business operations (e.g., compliance with regulatory obligations, accounting, audit and record keeping, planning, product monitoring/assessment, quality control, training, product testing/development); and/or
  - d. research into new treatments and protocols (subject always to the applicable laws and codes of conduct).
3. The results of your test, including your genetic data, will form part of your confidential medical records and Personal Data. These results will be accessible by your treating physician and his/her hospital or clinic, in addition to Lucence, and may be shared with other healthcare providers for medical treatment and healthcare purposes. Each of the foregoing parties has an obligation to keep your records confidential, in accordance with applicable laws and regulations.
4. Your Test results and clinical data may be added to and retained in databases for a reasonable period in accordance with Lucence's legal and business purposes, and subject to applicable laws and regulations.
5. Your Sample Material may be examined at the time of the Test or thereafter, possibly using new methods or technologies, for the purposes of running the ordered Test or for quality testing.

- 6. Lucence may de-identify your genetic information and results and use or disclose such de-identified genetic information/ results for future research. You agree that Lucence may retain this de-identified information for future research purposes. You understand that this information will be de-identified in a manner that meets de-identification standards under the United States *Health Information Portability and Accountability Act of 1996*, the Singapore *Personal Data Protection Act 2012*, the Hong Kong *Personal Data (Privacy) Ordinance (Cap 486)* and local data protection laws, as applicable.
- 7. You understand and agree that Lucence will not re-identify you and notify you in the case of any incidental findings, i.e., non-intended findings that arise and are outside the original purpose for which the Test was conducted.
- 8. You may, at any time, correct or, have access to your Personal Data, and/or withdraw your consent to any of the above uses of your Personal Data by Lucence (except to the extent that Lucence has already taken action in reliance on your consent). We may charge a reasonable fee for the processing of a request for access to Personal Data. If you wish to access or correct your Personal Data, please contact us at [privacy@lucence.com](mailto:privacy@lucence.com) or visit [www.lucence.com/privacy](http://www.lucence.com/privacy) for more details on Lucence's data use practices.

- 9. On the understanding that you may withdraw consent at any time by checking the box below, or contacting [support.asean@lucence.com](mailto:support.asean@lucence.com):
  - a. you agree that your genetic information and individually-identifiable data may be used for future research purposes. However, once your genetic information and results have been de-identified such that Lucence is not able to identify you or determine or re-identify which genetic information and results relate to you, you understand that you will no longer be able to withdraw consent to Lucence's future use or disclosure of such de-identified data.  
Risks and benefits of future research  
Once the de-identified data has been shared with other parties, you will not have full control over how such de-identified data may be used. Future research may not directly benefit you, but there could be a benefit to society as it advances new detection methods and treatments for cancer.
  - b. you hereby assign leftover Sample Material, if any, that is not used for the Test to Lucence for Lucence's and its affiliates' use, including for research. Lucence will endeavor to utilize an appropriate amount of Sample Material for the Test. Lucence will store your leftover Sample Material, in accordance with applicable laws and regulations.
  - c. you renounce any rights to your Sample Material and assign to Lucence any intellectual property rights that may be derived from the use of your Sample Material, whether so derived now or in the future.

**I want to opt out of this Section 9.**

*Note: This checkbox is OPTIONAL and Lucence will still be able to run the Test(s) even if you leave this box unchecked.*

### PATIENT'S RESPONSE

I understand that my physician ordered the test(s), which includes genomic testing on my behalf.

I hereby declare and confirm that I have been given adequate explanation with respect to the contents of this form, which has been fully explained to me in \_\_\_\_\_(language), and have fully understood the contents of this form.

I understand that the turnaround time given for the test(s) is an indicative guide only. As the performance of the test(s) may require the input of third parties and involve factors that are not within Lucence's control, I understand that Lucence is unable to guarantee the turnaround time. However, Lucence shall keep my physician informed in the event of unusual delays in providing the test(s) results and my physician shall have the duty to communicate such information to me.

I agree that I shall not hold Lucence liable for any loss of profits, indirect, consequential or special damages which I may suffer or incur in connection with this test, including but not limited to any delays in the delivery of the test(s) results or any diagnostic information provided to me by my physician in reliance on the results of the test(s). Liability for personal injury or death are not excluded.

**By signing this form, I consent to the above terms, except where I have specifically indicated that I do not consent to a term.**

Patient's Name \_\_\_\_\_ Patient's Signature \_\_\_\_\_ Date \_\_\_\_\_

If the patient is unable to give consent:

Parent/ Guardian's Name \_\_\_\_\_ Parent/ Guardian's Signature \_\_\_\_\_ Date \_\_\_\_\_

### PHYSICIAN'S STATEMENT

I have explained the above information to this individual. I have addressed the limitations outlined above, and I have answered this person's questions.

Physician's Name \_\_\_\_\_ Physician's Signature \_\_\_\_\_ Date \_\_\_\_\_

## PATIENT INFORMATION

**Note: Patient sticker can be used to avoid duplicate entry**

FAMILY NAME	FIRST NAME
DATE OF BIRTH	PATIENT ID / NRIC / FIN
GENDER <input type="checkbox"/> Male <input type="checkbox"/> Female	PHONE NO.
ADDRESS	
ETHNICITY <input type="checkbox"/> Chinese <input type="checkbox"/> Malay <input type="checkbox"/> Indian <input type="checkbox"/> Others: _____	

## PHYSICIAN INFORMATION

REQUEST DATE
ORDERING PHYSICIAN NAME
CLINIC / HOSPITAL NAME, PHONE NO. AND ADDRESS

## ORDERING PHYSICIAN'S SIGNATURE

--

### FOR PATHOLOGY LAB, PLEASE PREPARE THE FFPE SLIDES AS PER THE REQUIREMENTS BELOW:

#### [PLEASE CHECK THE BOX WHEN COMPLETED]

- 1 matched stained H&E slide with **tumor region marked out**
- 15 unstained sections of **2-5µm thickness** on **positively-charged** slides. Slides should be air-dried and must **NOT** be baked.

Please use positively-charged glass microscope slides for all sections. (Preferably Leica Microsystems BOND plus slides, S21.2113.A)

Tissue placement as follows:



Between the 4 dots on the slide as shown

Histology report must be submitted concurrently with slides

#### [PLEASE FILL IN THE INFORMATION BELOW. ALL FIELDS ARE REQUIRED.]

Specimen ID / Histology ID:	_____
Thickness of FFPE Sections:	_____
Area of tumor (MINIMUM 6mm <sup>2</sup> REQUIRED):	_____
Tissue Source / Specimen Site:	_____
Tumor Cellularity (%) (MINIMUM 30% REQUIRED):	_____
Date of Tissue Block/ FFPE Slides (LESS THAN 3 YEARS):	_____
Tissue Block Number:	_____
Date of Slides Cutting:	_____

PATHOLOGIST NAME	PATHOLOGY LABORATORY STAMP
PATHOLOGIST SIGNATURE	
CONTACT NUMBER	DATE

## Genes with Full Coding Sequence (CDS) Coverage

Single Nucleotide Variants (SNVs), Insertions/Deletions (Indels) and Copy Number Variations (CNVs)

<b>A</b>	<i>BCR</i>	<i>CRKL</i>	<i>ERCC5</i>	<i>FUBP1</i>	<i>ITK</i>	<i>MET</i>
<i>ABCB1</i>	<i>BIRC3</i>	<i>CRLF2</i>	<i>ERG</i>	<b>G</b>	<b>J</b>	<i>MITF</i>
<i>ABCC3</i>	<i>BIRC5</i>	<i>CRTC1</i>	<i>ERRFI1</i>	<i>G6PD</i>	<i>JAK1</i>	<i>MKI67</i>
<i>ABCG2</i>	<i>BLM</i>	<i>CSF1R</i>	<i>ESR1</i>	<i>GATA1</i>	<i>JAK2</i>	<i>MLH1</i>
<i>ABI1</i>	<i>BMPR1A</i>	<i>CSF3R</i>	<i>ETV1</i>	<i>GATA2</i>	<i>JAK3</i>	<i>MLLT10</i>
<i>ABL1</i>	<i>BRAF</i>	<i>CSMD3</i>	<i>ETV4</i>	<i>GATA3</i>	<i>JUN</i>	<i>MLLT3</i>
<i>ABL2</i>	<i>BRCA1</i>	<i>CTCF</i>	<i>ETV5</i>	<i>GLI1</i>	<b>K</b>	<i>MMP2</i>
<i>ACVR1</i>	<i>BRCA2</i>	<i>CTLA4</i>	<i>ETV6</i>	<i>GLI2</i>	<i>KAT6A</i>	<i>MMP9</i>
<i>ACVR1B</i>	<i>BRD3</i>	<i>CTNNA1</i>	<i>EWSR1</i>	<i>GNA11</i>	<i>KAT6B</i>	<i>MN1</i>
<i>ACVR2A</i>	<i>BRD4</i>	<i>CTNNB1</i>	<i>EXT1</i>	<i>GNAQ</i>	<i>KDM4C</i>	<i>MPL</i>
<i>ADGRB3</i>	<i>BRIP1</i>	<i>CUX1</i>	<i>EXT2</i>	<i>GNAS</i>	<i>KDM5A</i>	<i>MRE11</i>
<i>AFDN</i>	<i>BTG1</i>	<i>CXCR4</i>	<i>EZH1</i>	<i>GOPC</i>	<i>KDM5C</i>	<i>MSH2</i>
<i>AFF1</i>	<i>BTK</i>	<i>CYLD</i>	<i>EZH2</i>	<i>GPC3</i>	<i>KDM6A</i>	<i>MSH3</i>
<i>AFF3</i>	<i>BUB1B</i>	<i>CYP2D6</i>	<i>EZR</i>	<i>GREM1</i>	<i>KDR</i>	<i>MSH6</i>
<i>AIM2</i>	<b>C</b>	<b>D</b>	<b>F</b>	<i>GRIN2A</i>	<i>KEAP1</i>	<i>MSI2</i>
<i>AKT1</i>	<i>CALR</i>	<i>DAXX</i>	<i>FANCA</i>	<i>GRM3</i>	<i>KIF5B</i>	<i>MST1R</i>
<i>AKT2</i>	<i>CARD11</i>	<i>DCC</i>	<i>FANCC</i>	<i>GSTP1</i>	<i>KIT</i>	<i>MTAP</i>
<i>AKT3</i>	<i>CASP8</i>	<i>DDB2</i>	<i>FANCD2</i>	<b>H</b>	<i>KLF4</i>	<i>MTHFR</i>
<i>ALK</i>	<i>CBFB</i>	<i>DDIT3</i>	<i>FANCE</i>	<i>H3-3A</i>	<i>KLF6</i>	<i>MTOR</i>
<i>AMER1</i>	<i>CBL</i>	<i>DDR1</i>	<i>FANCF</i>	<i>H3-3B</i>	<i>KMT2A</i>	<i>MUC1</i>
<i>APC</i>	<i>CBLB</i>	<i>DDR2</i>	<i>FANCG</i>	<i>H3C2</i>	<i>KMT2C</i>	<i>MUC16</i>
<i>AR</i>	<i>CCND1</i>	<i>DDX11</i>	<i>FANCL</i>	<i>HDAC1</i>	<i>KMT2D</i>	<i>MUTYH</i>
<i>ARAF</i>	<i>CCND2</i>	<i>DDX3X</i>	<i>FANCM</i>	<i>HDAC2</i>	<i>KNL1</i>	<i>MYB</i>
<i>ARHGAP26</i>	<i>CCND3</i>	<i>DDX5</i>	<i>FAS</i>	<i>HEY1</i>	<i>KRAS</i>	<i>MYC</i>
<i>ARID1A</i>	<i>CCNE1</i>	<i>DEK</i>	<i>FAT1</i>	<i>HGF</i>	<b>L</b>	<i>MYCL</i>
<i>ARID1B</i>	<i>CD274 (PD-L1)</i>	<i>DICER1</i>	<i>FAT4</i>	<i>HIF1A</i>	<i>LATS1</i>	<i>MYCN</i>
<i>ARID2</i>	<i>CD44</i>	<i>DIS3L2</i>	<i>FBXO11</i>	<i>HLA-A</i>	<i>LATS2</i>	<i>MYD88</i>
<i>ARNT</i>	<i>CD74</i>	<i>DLC1</i>	<i>FBXW7</i>	<i>HLA-C</i>	<i>LCK</i>	<i>MYH11</i>
<i>ASXL1</i>	<i>CD79A</i>	<i>DNAJB1</i>	<i>FCGR2A</i>	<i>HLF</i>	<i>LEPR</i>	<i>MYH9</i>
<i>ATF1</i>	<i>CD79B</i>	<i>DNMT1</i>	<i>FCGR3A</i>	<i>HNF1A</i>	<i>LIFR</i>	<i>MYOD1</i>
<i>ATIC</i>	<i>CDC73</i>	<i>DNMT3A</i>	<i>FES</i>	<i>HOOK3</i>	<i>LMO1</i>	<b>N</b>
<i>ATM</i>	<i>CDH1</i>	<i>DNMT3B</i>	<i>FGF19</i>	<i>HOXB13</i>	<i>LPP</i>	<i>NBN</i>
<i>ATR</i>	<i>CDH11</i>	<i>DPYD</i>	<i>FGF2</i>	<i>HRAS</i>	<i>LRP1B</i>	<i>NCOA1</i>
<i>ATRX</i>	<i>CDK12</i>	<i>DROSHA</i>	<i>FGF3</i>	<i>HSP90AA1</i>	<i>LTK</i>	<i>NCOA2</i>
<i>AURKA</i>	<i>CDK4</i>	<i>DYRK1B</i>	<i>FGF4</i>	<i>HSP90AB1</i>	<i>LZTR1</i>	<i>NCOA3</i>
<i>AURKB</i>	<i>CDK6</i>	<b>E</b>	<i>FGFR1</i>	<i>HSPH1</i>	<b>M</b>	<i>NCOA4</i>
<i>AXIN1</i>	<i>CDK8</i>	<i>EGF</i>	<i>FGFR2</i>	<b>I</b>	<i>MAF</i>	<i>NCOR1</i>
<i>AXIN2</i>	<i>CDKN1A</i>	<i>EGFR</i>	<i>FGFR3</i>	<i>ID1</i>	<i>MAFB</i>	<i>NCOR2</i>
<i>AXL</i>	<i>CDKN1B</i>	<i>EIF1AX</i>	<i>FGFR4</i>	<i>ID2</i>	<i>MALT1</i>	<i>NF1</i>
<b>B</b>	<i>CDKN2A</i>	<i>EIF4A2</i>	<i>FH</i>	<i>ID3</i>	<i>MAML2</i>	<i>NF2</i>
<i>B2M</i>	<i>CDKN2B</i>	<i>EML4</i>	<i>FLCN</i>	<i>IDH1</i>	<i>MAP2K1 (MEK1)</i>	<i>NFE2L2</i>
<i>BAP1</i>	<i>CDKN2C</i>	<i>EP300</i>	<i>FLI1</i>	<i>IDH2</i>	<i>MAP2K2 (MEK2)</i>	<i>NFKB2</i>
<i>BARD1</i>	<i>CDX2</i>	<i>EPAS1</i>	<i>FLNA</i>	<i>IGF1R</i>	<i>MAP2K4</i>	<i>NIN</i>
<i>BAX</i>	<i>CEBPA</i>	<i>EPCAM</i>	<i>FLT1</i>	<i>IGF2</i>	<i>MAP3K1</i>	<i>NISCH</i>
<i>BCL10</i>	<i>CHD4</i>	<i>EPHA2</i>	<i>FLT3</i>	<i>IKBKB</i>	<i>MAP3K13</i>	<i>NKX2-1</i>
<i>BCL11A</i>	<i>CHEK1</i>	<i>EPHA3</i>	<i>FLT4</i>	<i>IKBKE</i>	<i>MAP3K9</i>	<i>NOTCH1</i>
<i>BCL11B</i>	<i>CHEK2</i>	<i>EPHB4</i>	<i>FOXA1</i>	<i>IKZF1</i>	<i>MAPK1</i>	<i>NOTCH2</i>
<i>BCL2</i>	<i>CIC</i>	<i>ERBB2 (HER2)</i>	<i>FOXL2</i>	<i>IL2</i>	<i>MAX</i>	<i>NOTCH3</i>
<i>BCL2L11</i>	<i>CIP2A</i>	<i>ERBB3</i>	<i>FOXO1</i>	<i>IL21R</i>	<i>MCL1</i>	<i>NOTCH4</i>
<i>BCL3</i>	<i>CNBP</i>	<i>ERBB4</i>	<i>FOXO3</i>	<i>IL6ST</i>	<i>MDM2</i>	<i>NPM1</i>
<i>BCL6</i>	<i>COL1A1</i>	<i>ERCC1</i>	<i>FOXO4</i>	<i>IL7R</i>	<i>MDM4</i>	<i>NRAS</i>
<i>BCL9</i>	<i>CRBN</i>	<i>ERCC2</i>	<i>FOXP1</i>	<i>INPP4B</i>	<i>MED12<sup>^</sup></i>	<i>NRG1</i>
<i>BCOR</i>	<i>CREB1</i>	<i>ERCC3</i>	<i>FRK</i>	<i>IRF4</i>	<i>MEN1</i>	<i>NSD1</i>
<i>BCORL1</i>	<i>CREBBP</i>	<i>ERCC4</i>	<i>FRS2</i>	<i>IRS2</i>	<i>MERTK</i>	<i>NSD2</i>



NSD3	PICALM	PRKCB	RET	SMAD2	TCF3	<b>U</b>
NT5C2	PIK3CA	PRRX1	RHEB	SMAD3	TCF7L2	U2AF1
NTHL1	PIK3CB	PSIP1	RHOA	SMAD4	TCL1A	UBR5
NTRK1	PIK3CD	PTCH1	RHOH	SMARCA1	TENT5C	UGT1A1
NTRK2	PIK3CG	PTEN	RICTOR	SMARCA4	TERT#	<b>V</b>
NTRK3	PIK3R1	PTGS2	RIT1	SMARCB1	TET1	VEGFA
NUAK2	PIK3R2	PTK2	RNF213	SMARCD1	TET2	VHL
NUMA1	PIM1	PTPN11	RNF43	SMARCE1	TFE3	<b>W</b>
NUP214	PLAG1	PTPRB	ROS1	SMO	TFEB	WAS
NUP98	PLCG1	PTPRC	RPS6	SOCS1	TGFB2	WEE1
NUTM1	PLCG2	PTPRD	RRM1	SOX10	TLX1	WRN
<b>P</b>	PLK1	PTPRK	RSPO2	SOX2	TMEM127	WT1
P2RY8	PML	PTPRT	RSPO3	SOX9	TMPRSS2	WWTR1
PAK1	PMS2	<b>Q</b>	RUNX1	SPEN	TNFAIP3	<b>X</b>
PALB2	POLB	QKI	RUNX1T1	SPOP	TNFRSF14	XPA
PARP1	POLD1	<b>R</b>	<b>S</b>	SRC	TNK2	XPC
PAX3	POLE	RAC1	SBDS	SRSF2	TOP1	XPO1
PAX5	POLQ	RAD21	SDC4	SSX1	TOP2A	XRCC1
PAX7	POLR2A	RAD50	SDHA	STAG2	TP53	XRCC2
PAX8	POT1	RAD51	SDHAF2	STAG3	TP63	<b>Z</b>
PBRM1	POU5F1	RAD51B	SDHB	STAT3	TPMT	ZEB1
PBX1	PPARG	RAD51C	SDHC	STAT5A	TPR	ZFH3
PDCD1LG2	PPM1D	RAD51D	SDHD	STAT5B	TRAF7	ZFP36L2
PDE4DIP	PPP2R1A	RAD54L	SEM1	STK11	TRIM24	ZNF384
PDGFB	PPP2R1B	RAF1	SETBP1	SUFU	TRIM33	ZNF521
PDGFRA	PPP6C	RANBP2	SETD2	SUZ12	TRIP11	ZRSR2
PDGFRB	PRDM1	RARA <sup>2</sup>	SF3B1	SYK	TRRAP	
PDPK1	PREX2	RASA1	SGK1	<b>T</b>	TSC1	
PER1	PRF1	RB1	SH2B3	TAL1	TSC2	
PGR	PRKAA1	RBM10	SLC34A2	TBL1XR1	TSHR	
PHF6	PRKAA2	RECQL4	SLC45A3	TBX3	TTK	
PHOX2B	PRKAR1A	REL	SLCO1B1	TCF12	TYMS	

^ Exon 1 and 2 only. # Hotspots only. <sup>2</sup> Exon 5-9 only.

## RNA Analysis for Fusions and Splice Variants

ABL1	DNAJB1	FGFR3	MET	PAX3	RAF1	TAL1
AFF1	EGFR	FIP1L1	NAB2	PAX7	RARA	TCF3
AKT3	EML4	FLI1	NOTCH1	PAX8	RET	TMPRSS2
ALK	ERBB4	FOXO1	NOTCH2	PBX1	ROS1	TPM3
ASPSCR1	ERG	FUS	NPM1	PDGFB	RUNX1	YAP1
BRAF	ESR1	GLIS2	NRG1	PDGFRA	SET	
CBFA2T3	ETV1	JAK2	NTRK1	PDGFRB	SSX1	
CCDC6	ETV6	JAZF1	NTRK2	PML	SSX2	
CD274 (PD-L1)	EWSR1	KIF5B	NTRK3	PPARG	STAT6	
CRLF2	FGFR1	KMT2A	NUP214	PRKACA	STIL	
CRTC1	FGFR2	LPP	NUTM1	PRKAR1A	SUZ12	

Contact us to order: +65 6592 5102 | [sales.asean@lucence.com](mailto:sales.asean@lucence.com)

[lucence.com](http://lucence.com)

Lucence Service Laboratory 211 Henderson Road #04-01/02, Henderson Industrial Park, Singapore 159552

Lucence Diagnostics Pte Ltd is licensed by the Ministry of Health (Singapore) as a Clinical Laboratory (Licence Number: 1710039/03/202) under the Private Hospitals and Medical Clinics Act. GST Registered 201605840N. Refer to [www.lucence.com/order-terms](http://www.lucence.com/order-terms) for Terms of Use. © 2021 Lucence Diagnostics Pte. Ltd. All Rights Reserved.

# UNITED™ CNS

The subset of genes relevant to CNS, targeted by UNITED™ CNS. Full gene list in UNITED™ brochure.

## SNVs, Indels & CNVs

<i>AKT1</i>	<b><i>CDKN2A</i></b>	<b><i>FGFR1</i></b>	<b><i>H3C2</i></b>	<i>MYB</i>	<b><i>NTRK3</i></b>	<i>RB1</i>	<b><i>SSX1</i></b>
<b><i>ALK</i></b>	<b><i>CDKN2B</i></b>	<b><i>FGFR2</i></b>	<b><i>IDH1</i></b>	<i>MYC</i>	<b><i>PDGFRA</i></b>	<b><i>RET</i></b>	<b><i>SUFU</i></b>
<b><i>ATRX</i></b>	<b><i>CTNNB1</i></b>	<b><i>FGFR3</i></b>	<b><i>IDH2</i></b>	<b><i>MYCN</i></b>	<i>PIK3CA</i>	<b><i>ROS1</i></b>	<b><i>TERT</i></b>
<i>BAP1</i>	<b><i>DDX3X</i></b>	<i>GNA11</i>	<i>KLF4</i>	<b><i>NF1</i></b>	<b><i>PRKAR1A</i></b>	<i>SMARCA4</i>	<b><i>TP53</i></b>
<b><i>BCOR</i></b>	<b><i>DICER1</i></b>	<i>GNAQ</i>	<b><i>KRAS</i></b>	<b><i>NF2</i></b>	<b><i>PTCH1</i></b>	<i>SMARCB1</i>	<i>TRAF7</i>
<b><i>BRAF</i></b>	<i>DROSHA</i>	<b><i>H3-3A</i></b>	<b><i>MET</i></b>	<b><i>NTRK1</i></b>	<i>PTEN</i>	<b><i>SMARCE1</i></b>	<i>TSC1</i>
<i>CDK4</i>	<b><i>EGFR</i></b>	<b><i>H3-3B</i></b>	<b><i>MN1</i></b>	<b><i>NTRK2</i></b>	<b><i>RAF1</i></b>	<b><i>SMO</i></b>	<i>TSC2</i>

Genes in **bold** are essential for standard-of-care CNS classification.

## RNA Fusions

<b><i>ALK</i></b>	<i>FGFR1</i>	<b><i>MET</i></b>	<b><i>NTRK2</i></b>	<i>PDGFRA</i>	<i>RAF1</i>	<b><i>ROS1</i></b>	<b><i>SSX2*</i></b>
<b><i>BRAF</i></b>	<b><i>FGFR2</i></b>	<b><i>NTRK1</i></b>	<b><i>NTRK3</i></b>	<b><i>PRKACA*</i></b>	<i>RET</i>	<b><i>SSX1</i></b>	<b><i>YAP1*</i></b>
<i>EGFR</i>	<b><i>FGFR3</i></b>						

Genes in **bold** are essential for standard-of-care CNS classification.

\*Genes tested in RNA panel only.

## Chromosomal Copy Number Alterations

<b>1p</b>	<b>1q</b>	<b>6</b>	<b>7</b>	<b>10</b>	<b>14q</b>	<b>19p</b>	<b>19q</b>
-----------	-----------	----------	----------	-----------	------------	------------	------------

Chromosome/chromosome arms in **bold** are essential for standard-of-care CNS classification.

# Standard40 Tissue NGS

For Lung, Colon & Solid Tumors

## Genes

<i>AKT1</i>	<i>CDKN2A</i> #	<i>FGFR1</i>	<i>GNAQ</i>	<i>KIT</i>	<i>MTOR</i>	<i>PIK3CA</i> #	<i>SMO</i>
<i>ALK</i> #	<i>CTNNB1</i>	<i>FGFR2</i>	<i>GNAS</i>	<i>KRAS</i> #	<i>NRAS</i>	<i>PTEN</i> #	<i>TP53</i>
<i>AR</i> #	<i>EGFR</i> #	<i>FGFR3</i>	<i>HRAS</i>	<i>MAP2K1</i>	<i>NTRK1</i>	<i>RAF1</i>	
<i>ARAF</i>	<i>ERBB2</i> #	<i>FLT3</i>	<i>IDH1</i>	<i>MAP2K2</i>	<i>NTRK3</i>	<i>RET</i>	
<i>BRAF</i>	<i>ESR1</i>	<i>GNA11</i>	<i>IDH2</i>	<i>MET</i> #	<i>PDGFRA</i>	<i>ROS1</i>	

#: Includes detection of gene copy number changes.

## Fusions & Splice variants

<i>ALK</i>	<i>EGFR</i>	<i>FGFR1</i>	<i>FGFR3</i>	<i>NRG1</i>	<i>NTRK2</i>	<i>NUTM1</i>	<i>ROS1</i>
<i>BRAF</i>	<i>ESR1</i>	<i>FGFR2</i>	<i>MET</i>	<i>NTRK1</i>	<i>NTRK3</i>	<i>RET</i>	

This test is facilitated through Parkway Labs | Contact to order: +65 6278 9188 | [pls.aa1@parkwaylabs.com.sg](mailto:pls.aa1@parkwaylabs.com.sg)

Lucence Service Laboratory 211 Henderson Road #04-02, Henderson Industrial Park, Singapore 159552 lucence.com  
Lucence Diagnostics Pte Ltd is licensed by the Ministry of Health (Singapore) as a Clinical Laboratory (Licence Number: L/17/0039/CLB/003/222) under the Healthcare Services Act 2020. GST Registered 201605840N. Refer to [www.lucence.com/order-terms](http://www.lucence.com/order-terms) for Terms of Use. © 2024 Lucence Diagnostics Pte. Ltd. All Rights Reserved.

Information for non-US medical professionals only.

M3020E-SG-01. January 2024