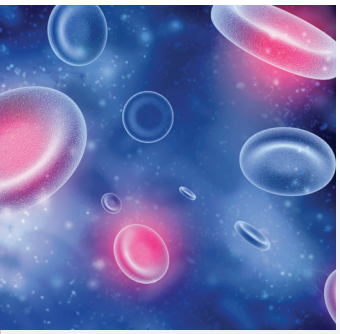
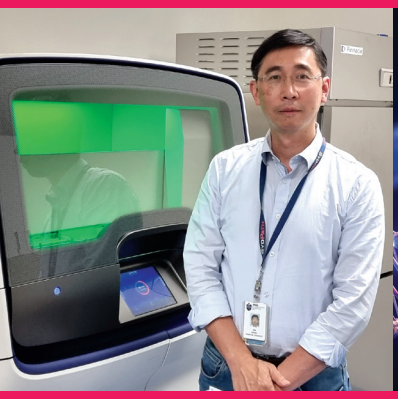
SydPath
ST VINCENT'S PATHOLOGY



HAEMATOLOGICAL

NEXT GENERATION SEQUENCING SERVICE

www.sydpath.com.au



SydPath provides an unwavering commitment to delivering high quality testing with a fast time to clinically actionable results, combined with our extensive expertise to propel us to the forefront

of diagnostic pathology, research, and scientific development. Our patient centric service is powered by St Vincent's Health Australia, underpinned by advanced scientific pathology and laboratory technology, to optimise outcomes and care. As a teaching hospital laboratory located within the St Vincent's Hospital Campus, SydPath also provides specialised services tailored to the needs of the pharmaceutical and biotechnology industries for their clinical trial and research programs.

Access to fast, high-quality results matter

SydPath's Departments of Haematology and Cancer Genetics are pleased to offer comprehensive haematological somatic mutation testing tailored to meet the clinical needs of oncologists, haematologists, and other clinicians.

Somatic genomic testing has now become the standard of care in a variety of cancers for:

- Diagnostic refinement
- Risk stratification
- Personalised therapeutic approaches

As each tumour is different, SydPath delivers an optimised and bespoke service approach:

- Guaranteed fast turnaround time for results afforded by in-house NGS testing capabilities at our NATA accredited Darlinghurst laboratory.
- Identification of optimised precision oncology treatments based on your patients' tumour molecular profile.
- Every single report undergoes clinical interpretation by a pathologist that holds NPAAC accreditation, ensuring the highest standard of patient care to support therapeutic decision making.

SydPath
ST VINCENT'S PATHOLOGY

OUR CONSULTATIVE HAEMATOLOGICAL NEXT GENERATION SEQUENCING SERVICE IS SECOND TO NONE

A patient's test performed at SydPath is more than just a result on a report. We offer a consultative approach, affording access to our highly-qualified Staff Specialists based at our Darlinghurst Campus in Sydney, to ensure that each patient's journey is given the unique attention it deserves.

The SydPath NGS Service is comprable to other providers across Australia as our high-quality testing covers clinically relevant gene targets, however our sample testing times are quicker and we deliver results faster, affording timely, optimised patient care and shorter time intervals for accessing appropriate treatment pathways.

Haematological NGS testing is covered by the MBS for eligible patients. Please refer to MBS Online for more information. Where testing does not attract reimbursement by the MBS, patients may be privately billed with their consent. For queries relating to in-patient NGS testing please contact the SydPath team for more information.

SydPath is rapidly expanding its Haematology NGS and cancer genetics services, offering gene panels on DNA interrogating for single nucleotide variants, insertions, and deletions. This complements the well-established and highly regarded cytogenetics department performing karyotyping, FISH and SNP array testing. Our NGS panels include:

Myeloid malignancies including acute myeloid leukaemia, myelodysplastic syndromes and myeloproliferative neoplasms
Lymphoid malignancies (currently being validated)

We currently perform testing on peripheral blood and bone marrow specimens for haematological indications (with FPPE available shortly with the lymphoid panel).

SydPath is New South Wales' leading cancer NGS provider and our service is a significant step forward in personalised and precision medicine, enabling the detection of somatic driver mutations, resistance mechanisms and quantification of mutational burden. NGS is a key clinical tool used in comprehensive cancer care in St Vincent's Hospital Sydney. Our aim is to drive awareness and access to this transformative technology, to optimise care and outcomes across New South Wales and beyond. Our current referral base is expansive, including over twenty public and private pathology providers.

Accredited for compliance with NPAAC Standards and ISO 15189

NATA

SydPath P +61 2 8382 9100 **W** sydpath.com.au

MEET OUR HIGHLY TRAINED & EXPERIENCED SYDPATH TEAM

Our Pathologists

Professor David Ma

Senior Molecular Haematopathologist with NPAAC Modules 2,3,4 Certification

Professor David Ma graduated in Medicine from the University of New South Wales. Following the completion of haematopathology training, he carried out several laboratory research studies overseas including those funded by RCPA Research Foundations in the ensuring years and has remained in this pursuit of scientific based medicine to the present. He is a senior specialist in Haematology at St Vincent's Public and Private Hospitals.

He is a Conjoint Professor of Medicine at the Clinical School, Faculty of Medicine, UNSW Sydney and, a member of the executive board and subcommittees of several international and national organisations. Professor Ma is also a Program Head of the St Vincent's Center for Applied Medical Research and the Director of R&D of the Haematology Department.

His laboratory research focuses on clinical and diagnostic applications of molecular and cell biology especially on haematopoietic and malignant stem cells. An example is that Professor Ma was instrumental in establishing the RCPA QAP for CD34 cell enumeration in the 2020's (subscribed by over 60 laboratories world-wide) and is currently working with the RCPA QAP team to set-up the world-first viable CD34 cell QAP programme. He has over 190 peer-reviewed publications (H-index 44 and over 11,000 citations). He is certified for karyotyping, FISH, SNP array, MLPA and NGS testing from the Royal College of Pathologists of Australasia.

Dr Michael Krigstein

Molecular Haematopathologist with NPAAC Modules 2,3,4 Certification

Dr Michael Krigstein MBBS(Hons) FRACP FRCPA MCncrSc is a staff specialist in Haematology at Sydpath. He holds certification for karyotyping, FISH, SNP array, MLPA and NGS testing in haematological malignancies. He is incredibly passionate about using molecular testing to accurately diagnose and prognosticate haematological malignancies to optimise therapeutic decision making. He has several publications in molecular haematology. He is also well recognised as an educator in the field, providing lectures for the Royal College of Pathologists of Australasia and teaching haematology trainees across the country.

Dr Emily Jude

Molecular Haematology Fellow

Dr Emily Jude MBBS(Hons) FRACP FRCPA MBioeth is a molecular haematology fellow at SydPath. She is currently training to gain NPAAC Module 3 certification for NGS testing in haematological malignancies. She is enthusiastic about how molecular testing in haematological malignancies can help clinicians and patients by assisting in diagnosis, prognostication, and therapeutic decision making.

Our Pathologists are supported by the dedicated and diligent SydPath team of scientists, technicians & administrative staff.

Dr Damien Stark

Principal Hospital Scientist BSc, MSc, PhD, FASM, FACTM, FFSc (Research) RCPA.

Dr Damien Stark is a Principal Hospital Scientist and current laboratory Manager of the NGS facility. He was instrumental in setting up the NGS laboratory and has over 25 years' experience as a medical scientist.

Dr Stark has over 120 peer reviewed scientific articles published (h-index 47) in various areas of microbiology, with a strong emphasis on molecular diagnostics.

Dr Bin Wang

Senior Hospital Scientist/Clinical Scientist

Dr Bin Wang MBBS is the scientist in charge of the Molecular Pathology Cancer Genetics Laboratory of SydPath. He has over 28 years of experience in molecular genetics with over 100 publications in world renowned journals and is a well-recognised expert in the field.

Dr Wang has played a pivotal role in achieving NATA accreditation for the multiple somatic mutation NGS panels that are currently offered at SydPath as well as managing the lab daily to maintain the quality of NGS services. Dr Wang has ongoing collaborations with researchers and clinicians alike and is a proud recipient of three national urgent initiative grants by the NHMRC for development of new genetic technologies and assays for viral, bacterial and cancer testing.

CURRENT HAEMATOLOGICAL NGS CAPABILITIES

Myeloid Assay

	Genes	
ABL1	GATA1	PTPN11
ANKRD26	GATA2	RAD21
ASXL1	IDH1	RUNX1
BCOR	IDH2	SETBP1
BCORL1	IKZF1	SF3B1
BRAF	JAK2	SH2B3
CALR	KIT	SRSF2
CBL	KRAS	STAG2
CEBPA	MPL	STAT3
CSF3R	MYD88	STAT5B
DDX41	NF1	TET2
DNMT3A	NPM1	TP53
ETNK1	NRAS	U2AF1
ETV6	PHF6	UBA1
EZH2	PPM1D	WT1
FLT3*	PRPF8	ZRSR2
HRAS		

*FLT3-ITDs are not comprehensively detected by this assay and should still be ordered separately

The Myeloid DNA panel is comprised of forty-nine key genes covering the most relevant targets associated with myeloid malignancies, including acute myeloid leukaemia (AML), myelodysplastic syndrome (MDS), myeloproliferative neoplasms (MPN) and myelodysplastic/myeloproliferative (MDS/MPN) overlap disorders. The assay detects somatic variants down to a 3% variant allele frequency, which can be useful for:

- Establishing accurate diagnoses (including differentiating malignant from non-malignant conditions)
- Providing a guide to prognosis
- Identifying therapeutic targets and molecular markers for ongoing monitoring

Each patient receives a personalised report incorporating the latest molecular classifications and knowledge. Since November 1st 2023 this test is now MBS subsidised for all patients with suspected myeloid malignancies at diagnosis, disease progression or relapse.

NGS CAPABILITIES COMING SOON

Lymphoma Assay

	Genes	
ARID1A	FAM46C (TENT5C)	PIM1
ATM	FAS	PLCG2
B2M	FBXW7	POT1
BCL2	FOXO1	PRDM1
BCL6	GNA13	PTEN
BIRC3	HRAS	RHOA
BRAF	ID3	RPS15
BTK	IDH2	SAMHD1
CARD11	IRF4	SF3B1
CCND1	KMT2D/MLL2	SGK1
CCND3	KRAS	SMARCA4
CD79B	MAP2K1	SOCS1
CDKN2A	MEF2B	STAT3
CREBBP	MYC	STAT5B
CXCR4	MYD88	STAT6
DIS3	NFKBIE	TET2
DNMT3A	NOTCH1	TNFAIP3
EP300	NOTCH2	TNFRSF14
ETV6	NRAS	TP53
EZH2	PAX5	XPO1

Our panel for lymphoid malignancies is currently undergoing validation and is expected to launch soon. It covers sixty genes that are crucial in B and T cell lymphomas. Once validated, this test will be fully MBS subsidised for all patients with suspected lymphoid malignancies at diagnosis, disease progression or relapse.

THE SYDPATH NGS SERVICE OFFERING IS SUPPORTED AND COMPLEMENTED BY OUR HIGH-QUALITY HAEMATOLOGY PATHOLOGY SERVICE

SydPath's Haematology Laboratory provides both a diagnostic and clinical service in Haematology and Transfusion Medicine for several local and regional hospitals as well as specialists and general practitioners. In addition to these routine services, there is also a Haematopoietic Stem Cell Transplantation Laboratory and the department provides professional management of laboratory services for clinical trials and research.

The central automated laboratory and transfusion medicine laboratory operates 24 hours/day, 7 days/week providing a comprehensive range of laboratory services including:

- Full blood count examination, ESR and screening for malaria and infectious mononucleosis
- Haemostasis testing – both routine and specialised testing for the investigation of bleeding and thrombotic disorders
- Anticoagulant therapy testing, monitoring and advice – this includes specialised testing for the novel/new oral anticoagulant drugs (i.e. dabigatran, rivaroxaban) as well as point-of-care INR testing for monitoring warfarin therapy
- Haemoglobinopathy investigations and interpretation
- Antenatal testing and blood transfusion support for trauma, transplant and surgical procedures
- Bone marrow biopsy collection and reporting

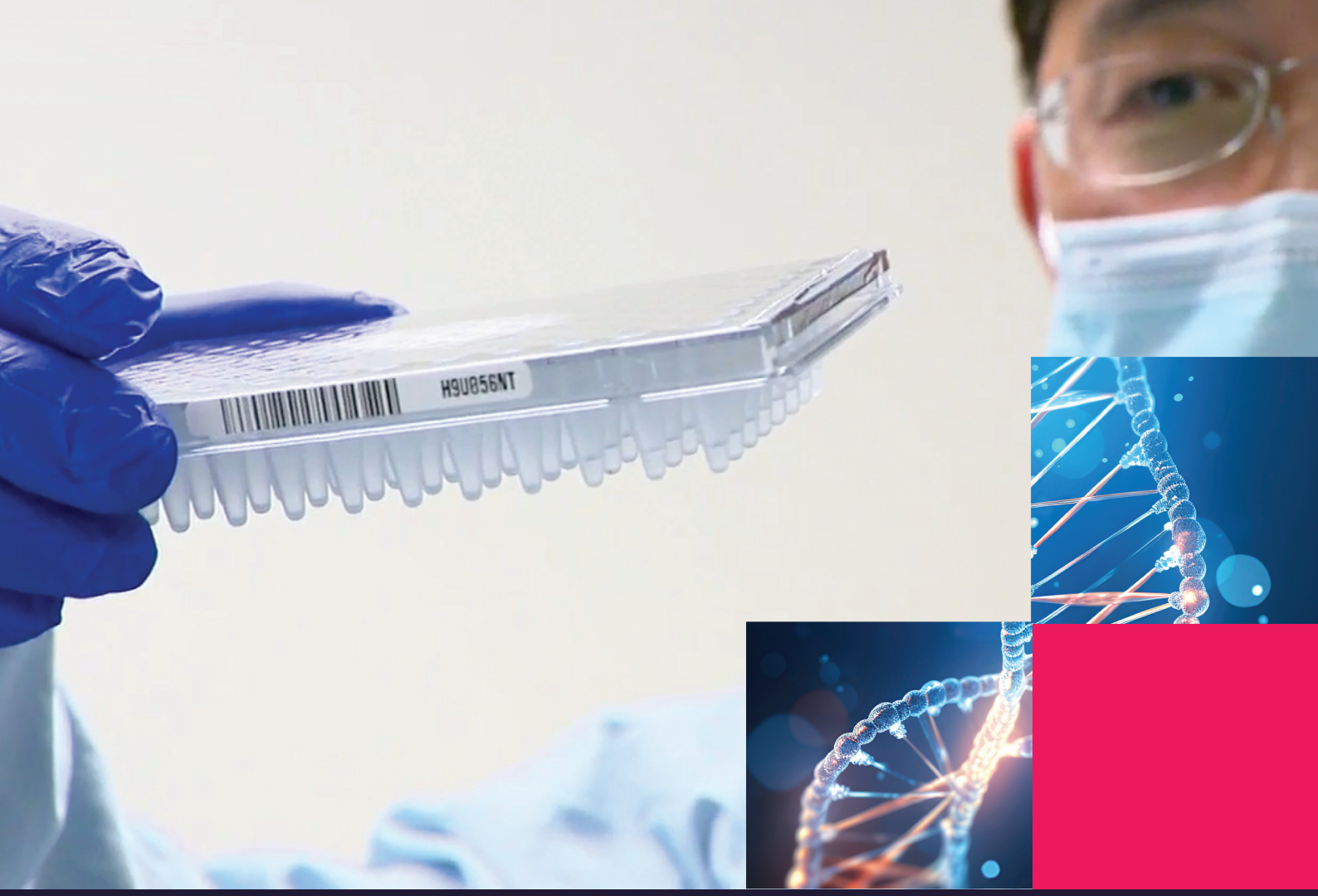
SydPath Haematology is actively engaged in translational research in a number of areas including haemostasis, leukaemia and patient blood management.

A Haematologist trained in both laboratory and clinical haematology is available 24 hours to consult on issues such as test interpretation, dealing with critical results and new haematological diagnoses and providing expertise and advice in relation to patient blood management.

HAEMATOLOGY CANCER GENETICS

The Haematology Cancer Genetics laboratory also offers a comprehensive cytogenomics testing service for diagnosis and prognostication in the setting of haematological malignancy. Our team is highly qualified and experienced in the performance and interpretation of tests in a wide range of referrals settings, including leukaemia, MDS, MPD, myeloma, CLL and lymphoma. Testing can be separated into Karyotyping, Fluorescence in-situ hybridisation (FISH) and SNP Array. A GeneXpert BCR::ABL1 Real Time Quantitative PCR is also available.

SydPath
ST VINCENT'S PATHOLOGY



ST VINCENT'S HOSPITAL SYDNEY

SydPath ST VINCENT'S PATHOLOGY

Sydpath offers an expansive next generation sequencing service, both in haematological and solid tumor testing.

Please refer to the SydPath Next Generation Sequencing service guide or contact our friendly team to find out more information.

SYDPATH NGS SERVICE GUIDE:
sydpath.com.au/service-brochures

REQUEST FORMS

SydPath has a dedicated NGS testing request form which contain many specific details including which panels are applicable to specific tumour types and contexts.

- **REQUEST FORMS - SYDPATH** WWW.SYDPATH.COM.AU/REQUEST-FORMS/
- **SYDPATH HAEMATOLOGY CANCER GENETICS REQUEST FORM**

CONTACT US

Please feel free to contact the SydPath NGS department or our Pathologists directly with any queries you might have about the somatic mutation testing and Next Generation Sequencing SydPath offers.

SydPath Haematology Next Generation Sequencing Team
molecular.haem@svha.org.au

T +61 2 8382 9100

Level 6 Xavier Building,
St Vincent's Hospital, Victoria Street,
Darlinghurst Sydney NSW 2010 Australia
T +61 2 8382 9100
F +61 2 8382 2489
W sydpath.com.au

DOC ID: 38412 v1

Effective Date: March/2024