



FISH and Cytogenetics

Fluorescence in Situ
Hybridization (FISH) and
Cytogenetics services





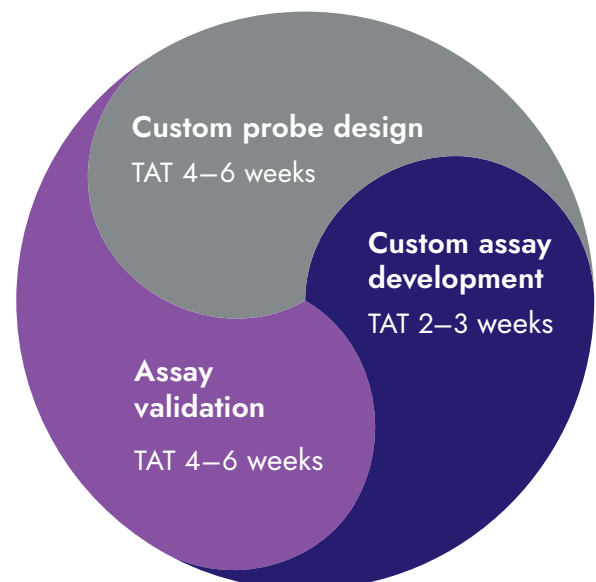
At NeoGenomics, we offer comprehensive and validated FISH probes to detect gene amplification, translocation and inversion, as well as custom FISH probe assays and validation with quick turnaround and standardized workflow across our global laboratories. In addition, we provide exceptional cytogenetics services, including pathologist review, cell culturing and accurate chromosomal analysis.

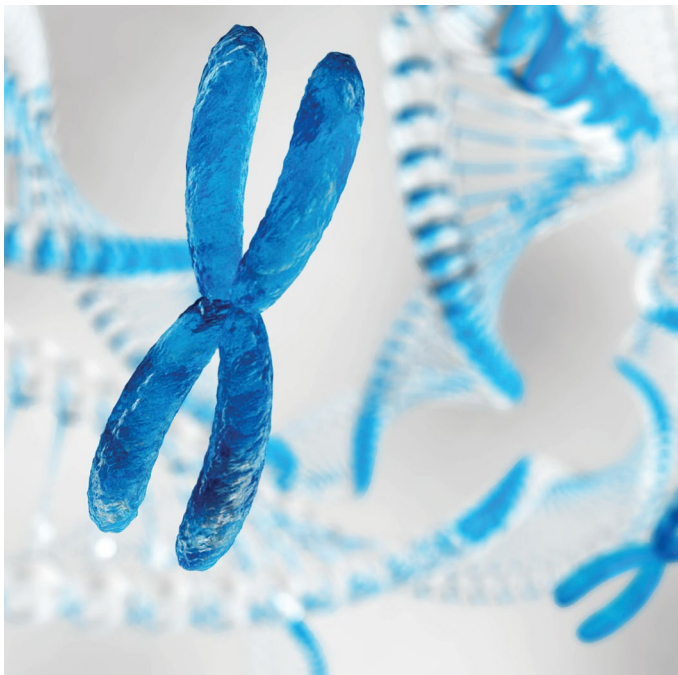
FISH

- Provides FISH coverage of over 90 different loci
- >60 tests with global LDT and IVD testing options
- Single marker assays and disease-focused panels
- Available in the U.S. (La Jolla, Fort Myers), Switzerland, Singapore and China*
- Custom FISH assay development, including probe design
- Phase 3 CDx FISH trial experience
- Sample types including FFPE, blood, bone marrow
- Plasma cell enrichment available for plasma cell disorders

*China: currently validating assays, anticipate operations in late 2022

Assay development and validation workflow





Cytogenetics

- Available in U.S. (La Jolla), Switzerland and Singapore
- Oncology chromosome analysis
 - Bone marrow aspirate
 - Peripheral blood
- Process/culture and hold:
 - Myeloid
 - Lymphoid
 - Plasma cell

FISH assays and panels

Bold indicates Pharma assays that are validated and ready for use. The others indicate assays from the Clinical Division which are available to transfer to Pharma Services (assay transfer TAT 2–4 weeks).

- 11q Aberration in NHL
- **13q Deletion**
- 1p/19q Deletions for Glioma
- 1p36 Deletion
- **6q Deletion**
- ALK (2p23) for Lymphoma
- **ALK for NSCLC**
- ALL Adult FISH Panel
- **ALL FISH Panel (Ph-Like)**
- ALL Pediatric FISH Panel
- **AML Favorable-Risk Panel**
- **AML Non-Favorable Risk Panel (non-NY)**
- **AML Standard Panel**
- **BIRC3(API2)/MALT1 t(11;18)**
- **BCL2 (18q21)**
- **BCL6 (3q27)**
- **BCR/ABL1 t(9;22)**
- BRAF Rearrangement
- **CBFB inv(16)**
- **CCND1(BCL1)/IgH t(11;14)**
- CDKN2A (p16) Deletion FISH for ALL
- CDKN2A (p16) Deletion FISH for Mesothelioma
- **CDKN2C/CKS1B**
- **CLL FISH Panel (IVD)**
- **CRFL2 Break-Apart**
- DDIT3 (CHOP)
- DUSP22-IRF4 Rearrangement
- EGFR Amplification
- **EGFR1/RPS14/5- (5)**
- Eosinophilia FISH Panel
- **EPOR Break-Apart**
- FGFR2 Rearrangement
- **FGFR3/IgH t(4;14)**
- **HER2 Breast and Gastric Cancer (IVD)**
- **HER2 Gastric and Non-Breast**
- **High-grade/Large B-cell Lymphoma**
- IgH (14q32)
- **IgH/BCL2 t(14;18)**
- **IgH/MAF t(14;16)**
- IgH/MAFB t(14;20)
- **JAK2 (9p24.1)**
- **KMT2E/7- (7)**
- **Low-Grade/Small B-Cell Lymphoma FISH Panel**
- MALT1 (18q21)
- **MDM2**
- **MDS Standard FISH Panel**
- MDS Extended FISH Panel
- MET FISH
- **MLL (11q23)**
- MPN FISH Panel
- **MYC (8q24)**
- MYC/IgH/Cen 8 t(8;14)
- MYC Amplification for Angiosarcoma
- **MYCN (n-MYC) Amplification**
- NTRK 1, 2, 3 FISH Panel
- NTRK3 FISH
- NUP98
- PDGFRA Amplification
- PDGFRA Rearrangement
- **PDGFRB Rearrangement (22q13)**
- Plasma Cell Myeloma FISH Panel
- Plasma Cell Myeloma IgH Complex FISH Panel
- Plasma Cell Myeloma Prognostic FISH Panel
- **PML/RARA t(15;17)**
- PTEN
- PTPRT/8+ (8/20)
- RARA Break-Apart
- RET FISH
- ROS1
- **RUNX1T1/RUNX1 (ETO/AML1) t(8;21)**
- SS18 (SYT) FISH
- TCL1
- **TP53/NF1 (del17p)**
- TP63 Rearrangement

For current listing, please contact a NeoGenomics representative at 800.720.4363 or email us at pharmaservices@neogenomics.com

Specimen requirements

FISH

Heme samples	Tube requirements	Requirements
Bone marrow aspirate	1–2 mL sodium heparin tube. EDTA tube is acceptable.	Use cold pack for transport. Make sure cold pack is not in direct contact with specimen. Plasma Cell Enrichment testing specimens must arrive within 72 hours.
Peripheral blood	2–5 mL sodium heparin tube. EDTA tube is acceptable.	Use cold pack for transport. Make sure cold pack is not in direct contact with specimen. Plasma Cell Enrichment testing specimens must arrive within 72 hours (however, they are not recommended as a screening specimen unless increased plasma cells are seen on blood smear).
Fixed paraffin tissue	Slide requirements	Requirements
H&E	Minimum of 1 slide cut at 4-5 μ m	Use cold pack during transport of paraffin blocks and unstained slides. Cold pack should not be placed in direct contact with the specimen during shipping. Please use positively-charged slides and 10% NBF fixative. Do not use zinc fixatives. Most decalcification solutions are incompatible with FISH due to potential hydrolysis of the DNA. Limited acid decalcification (\leq 24 hours) in 5% formic acid can preserve DNA sufficient for FISH according to some studies. Other studies have demonstrated that EDTA decalcified bone material preserves DNA better and is preferable for FISH analysis.
FISH probe set	Minimum of 2 slides cut at 4-5 μ m per marker	

Example: 2 probe set will require 5 total unstained slides: 4 slides for FISH probe sets + 1 H&E slide.

Cytogenetics

Heme samples	Tube requirements	Requirements
Bone marrow aspirate	1–2 mL sodium heparin tube	Individual specimens must arrive within 72 hours of draw. Do not freeze. Use cold pack for transport. Make sure cold pack is not in direct contact with specimen.
Peripheral blood	2–5 mL sodium heparin tube	



Typical TAT

	FISH	Cytogenetics
Heme (peripheral blood, bone marrow aspirate)	5 days	<ul style="list-style-type: none"> • 7 days • 9 days for plasma cell disorder
Solid tissue (FFPE)	<ul style="list-style-type: none"> • Real-time: 7 days • Batch of 10: 10 days • Batch of >10: 2-3 weeks 	

TAT in business days. TAT may be longer for ex-U.S. sites.



- 1 Aliso Viejo, California (Est. 2004)
- 2 Carlsbad, California (Est. 2004)
- 3 La Jolla, California (Est. 2014)
- 4 Houston, Texas (Est. 2001)
Genomics Specialty
- 5 RTP, North Carolina (Est. 2016)
Inivata Partner Site
- 6 Nashville, Tennessee (Est. 2006)
- 7 Atlanta, Georgia (Est. 2017)
- 8 Tampa, Florida (Est. 2011)
- 9 Fort Myers, Florida (Est. 2002)
Headquarters
- 10 Cambridge, UK (Est. 2014)
Inivata Partner Site
- 11 Geneva, Switzerland (Est. 2017)
- 12 Singapore (Est. 2019)
- 13 Suzhou, China (Est. 2021)
- 14 Phoenix, Arizona (Est. 2021)

NeoGenomics is the leading global provider of oncology testing and research services, with 14 locations across 3 continents.

About NeoGenomics Pharma Services

NeoGenomics' Pharma Services unifies several innovative companies' scientific and medical leadership under one leading brand, offering one of the most comprehensive laboratory services menus available for biomarker testing supporting oncology clinical trials globally. We provide our clients with an unparalleled level of expertise, service, flexibility and scalability. Additionally, we offer alternative business models and solutions across the continuum of development from pre-clinical research and development through commercialization.

To learn more about NeoGenomics Pharma Services, visit us online at neogenomics.com/pharma-services, call us at 800.720.4363 or email us at pharmaservices@neogenomics.com

NeoGenomics Laboratories is a specialized oncology reference laboratory providing the latest technologies, testing, partnership opportunities and interactive education to the oncology and pathology communities. We offer the complete spectrum of diagnostic services in molecular testing, FISH, cytogenetics, flow cytometry and immunohistochemistry through our worldwide network of CAP-accredited, CLIA-certified laboratories.

Committed to research as the means to improve patient care, we provide Pharma Services for pharmaceutical companies, in vitro diagnostic manufacturers and academic scientist-clinicians. We promote joint publications with our client physicians. NeoGenomics welcomes your inquiries for collaborations. Please contact us for more information.

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