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CELL LINES PORTFOLIO

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Samples and assays:

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As part of our R&D services, at Pangaea Oncology we offer our collaborators an exclusive portfolio of cellular models to study resistance mechanisms and validate targeted therapies. These models have been developed and internally characterized to support high-impact translational research.

Our resources include:

- ⊗ **Resistant cell lines** to targeted therapies, derived from established cell lines.
- ⊗ **Patient-derived (primary) cultures**, representative of various tumor types.

These cell models can be used in projects aimed at:

- ⊗ Investigating mechanisms of acquired resistance.
- ⊗ Evaluating the efficacy of inhibitors targeting specific molecular pathways.
- ⊗ Validating molecular signatures.
- ⊗ Studying emerging biomarkers.

Client Trackrecord

Pangaea Oncology has established a robust track record of serving leading organizations across the oncology landscape, as illustrated by our extensive client portfolio. Our collaborations include a strong focus on Pre-Clinical Services, supporting early-stage drug development and translational research. Key highlights include:

Contact Start Year	Clients
2005 – 2007	
2008 – 2010	 
2011 – 2013	
2014 – 2016	  
2017 – 2019	 
2020 – 2026	 



RESISTANT CELL LINES



PRIMARY CULTURES



PROJECTS



CLIENTS

Prices and service offerings in this portfolio will be reviewed annually.

If you need more specific information about any of the cell lines, please contact lab@panoncology.com

RESISTANT CELL LINES

Resistant cell line	Parental cell line	Tumor Type	Description (Parental)	Resistant to
PC9-GR1 to GR5 PC9-OR1 to OR5	PC9	NSCLC	EGFR exon 19 deletion. Gold-standard model for EGFR-mutant lung cancer.	1st, 2nd TKIs (GR1 to GR5) 3rd gen TKIs (OR1-OR5)
11-18 GR1 to GR6	11-18	NSCLC	EGFR p.Leu858Arg mutation. Sensitive to EGFR TKIs.	1st & 2nd gen TKIs
NCI-H3122 CR1 to CR3	NCI-H3122	NSCLC	EML4-ALK fusion (variant 1). Key model for ALK-rearranged tumors.	Crizotinib
NCI-H2228 ALR1 to 20	H2228	NSCLC	EML4-ALK fusion (variant 3). Complementary to H3122 for comparing ALK responses.	Alectinib
HT29 ER1 to ER10 HT29 ECR1 to ECR10	HT29	CRC	BRAF V600E useful in GI oncology.	Encorafenib, Encorafenib + Cetuximab
NCI-H23 SR1 to SR4 NCI-H23 SPR1 to SPR4	NCI-H23	NSCLC	KRAS mutation G12C	Sotorasib, Sotorasib + Panitumumab

PRIMARY CULTURES

Tumor Type	Derived from	Prior Treatment	Gene(s) Alteration
Breast	Pleural effusion	Tamoxifen	KRAS G13D, ERBB2, ARID1A
Cervix	Ascites	Chemoradiotherapy	STK11
Cholangiocarcinoma	Ascites	Cisplatin + Gemcitabine	BRAF, ARID1A
Gastric	Ascites	FOLFOX, Taxol, Ramucirumab	CDK6, KEAP1, KRAS amp, FGFR2
Lung	Pericardial fluid, pleural effusion, tissue	Various (e.g., Osimertinib, Lorlatinib, immunotherapy, radiotherapy combos)	EGFR, ALK, MET amp, MET Δ 14, KRAS G12C/D, ARID1A, STK11, etc
Melanoma	Ascites	Dabrafenib & Trametinib	BRAF
Mesothelioma	Ascites	Nivolumab	-
Ovary	Ascites, Pleural effusion	Neratinib	TP53, PIK3CA, CCNE1, BRCA2, PIK3CA
Pancreas	Ascites, Pleural effusion	Irinotecan + 5FU, Folfirinox	KRAS G12C/D/R, KRAS amplification

PARENTAL CELL LINES

We have a panel of 140 parental cell lines of all types of solid tumors along with the most common drivers:

Cell Lines	Drivers	Tumor
WPMY-1	--	Myofibroblast
SAOS-2	--	Bone
HCC1187	--	Breast
SK-BR-3	--	Breast
HBEC3-KC	--	Epithelia
HEL	--	Erythroleukemia
SW1353	--	Bone
AALE	--	Lung
SET-2	--	Megakaryoblastic leukemia
NOMO-1	--	Myeloid leukemia
SK-N-FI	--	Neuroblastoma.
Capan-1	KRAS	Pancreas
PANC-1	KRAS	Pancreas
HL-60	--	Promyeloblast
MCF7	PIK3CA	Breast adenocarcinoma
MDA-MB-468	--	Breast adenocarcinoma
HeLa	--	Cervix adenocarcinoma
11-18	EGFR	Lung adenocarcinoma
DV90	--	Lung adenocarcinoma
NCI-H1568	--	Lung adenocarcinoma
NCI-H1650	EGFR	Lung adenocarcinoma
NCI-H1819	--	Lung adenocarcinoma
NCI-H1975	EGFR	Lung adenocarcinoma
NCI-H1993	--	Lung adenocarcinoma

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Cell Lines	Drivers	Tumor
NCI-H2122	KRAS	Lung adenocarcinoma
NCI-H2228	ALK	Lung adenocarcinoma
NCI-H3122	ALK	Lung adenocarcinoma
NCI-H3255	EGFR	Lung adenocarcinoma
NCI-H522	--	Lung adenocarcinoma
HCC4006	EGFR	Lung adenocarcinoma
HCC78	ROS1	Lung adenocarcinoma
HCC-827	EGFR	Lung adenocarcinoma
HOP62	KRAS	Lung adenocarcinoma
LC2/ad	RET	Lung adenocarcinoma
NCI-H1734	KRAS	Lung adenocarcinoma
NCI-H2009	KRAS	Lung adenocarcinoma
NCI-H2030	KRAS	Lung adenocarcinoma
NCI-H23	KRAS	Lung adenocarcinoma
NCI-H441	KRAS	Lung adenocarcinoma
PC9	EGFR	Lung adenocarcinoma
CAOV-3	EGFR	Ovary adenocarcinoma
OVCAR-3	--	Ovary adenocarcinoma
SK-OV-3	PIK3CA	Ovary adenocarcinoma
BxPC-3	--	Pancreas, adenocarcinoma
MIA-PaCa-2	KRAS	Pancreas, adenocarcinoma
PC-3	--	Prostate adenocarcinoma
HCC1428	--	Breast adenocarcinoma (luminal b)
A549	KRAS	Bronchioalveolar adenocarcinoma lung
NCI-H1781	HER2	Bronchioalveolar adenocarcinoma lung
NCI-H727	KRAS	Bronchioalveolar adenocarcinoma lung
DLD-1	KRAS	Colorectal adenocarcinoma

Cell Lines	Drivers	Tumor
NCI-H508	--	Colorectal adenocarcinoma
HCT 116	KRAS	Colorectal adenocarcinoma
HT-29	BRAF	Colorectal adenocarcinoma
LS174T	KRAS	Colorectal adenocarcinoma
SNU-C1	--	Colorectal adenocarcinoma
SW48	EGFR	Colorectal adenocarcinoma
AU565	HER2	Ductal adenocarcinoma breast
MDA-MB-231	KRAS	Breast adenocarcinoma, triple negative
UMC-11	--	Lung carcinoid, epithelial
OVCAR-4	--	Ovary carcinoma
OVCAR-8	--	Ovary carcinoma
NCI-H596	MET + PIK3CA	Adenosquamous lung carcinoma
HCC366	--	Adenosquamous lung carcinoma
Calu-6	KRAS	Anaplastic lung carcinoma
NCI-H460	KRAS	Lung large cell carcinoma
NCI-H1155	KRAS	Lung small cell carcinoma
NCI-H524	--	Lung small cell carcinoma
NCI-H526	--	Lung small cell carcinoma
NCI-H69	PIK3CA	Lung small cell carcinoma
NCI-H82	--	Lung small cell carcinoma
NCI-H841	--	Lung small cell carcinoma
NCI-H1694	--	Lung small cell carcinoma
EBC-1	MET	Lung carcinoma squamous
NCI-H1373	--	Lung carcinoma squamous
NCI-H1703	--	Lung carcinoma squamous
NCI-H2286	--	Lung carcinoma squamous
NCI-H520	--	Lung carcinoma squamous

Cell Lines	Drivers	Tumor
NCI-H2170	--	Lung carcinoma squamous
SK-MES-1	--	Lung carcinoma squamous
SW 900	KRAS	Lung carcinoma squamous
FaDu	--	Squamous pharyngeal carcinoma
SCC4	--	Squamous cell carcinoma tongue
SCC9	--	Squamous cell carcinoma tongue
DMS 53	--	Lung carcinoma, epithelial
MF	--	Breast carcinoma; ductal carcinoma
A-427	--	Lung carcinoma; non small cell carcinoma
NCI-H1355	KRAS	Lung carcinoma; non small cell carcinoma
NCI-H1395	--	Lung carcinoma; non small cell carcinoma
NCI-H1581	--	Lung carcinoma; non small cell carcinoma
NCI-H1666	BRAF	Lung carcinoma; non small cell carcinoma
NCI-H1792	KRAS	Lung carcinoma; non small cell carcinoma
NCI-H322	--	Lung carcinoma; non small cell carcinoma
NCI-H358	KRAS	Lung carcinoma; non small cell carcinoma
NCI-H2029	--	Lung carcinoma; small cell lung cancer
CRL-1831	--	Colon
CCD-1059Sk	--	Normal fibroblast
Gingival (HGF-1)	--	Normal fibroblast
HF	--	Normal fibroblast
IMR90	--	Normal fibroblast
Hs746T	MET	Gastric carcinoma
A-172	--	Glioblastoma
LN-229	--	Glioblastoma
U-118 MG	ROS1	Glioblastoma
U-138MG	--	Glioblastoma

Cell Lines	Drivers	Tumor
U-178 MG		Glioblastoma
U-373		Glioblastoma
U-87 MG		Glioblastoma
T98-G		Glioblastoma multiforme
DK-MG (=DKMG)		Glioma
RT112/84	FGFR3	Human bladder epithelial carcinoma.
CCL-171		Normal lung fibroblasts
NCI-H510		Lung lung; derived from metastatic tissue: adrenal gland
451Lu-BR	--	Malignant melanoma
A375	BRAF	Malignant melanoma
IGR-1	BRAF	Malignant melanoma
SKMeL103	NRAS	Malignant melanoma
SKMeL147	NRAS	Malignant melanoma
UACC903	BRAF	Malignant melanoma
WM115	BRAF	Malignant melanoma
WM793	BRAF	Malignant melanoma
MDA-MB-435S	--	Malignant melanoma
Ben-Men-1	--	Meningioma meningotheial
SH-SY-5Y	--	Bone marrow neuroblastoma
IMR-32		Brain neuroblastoma
SK-N-SH		Brain neuroblastoma
HCC15	NRAS	Lung carcinoma squamous
NCI-H2110		Lung carcinoma; non small cell carcinoma
HCC1500		Breast primary ductal carcinoma (luminal b)
DU-145		Prostate carcinoma
LNCaP		Prostate carcinoma
HACAT		Normal keratinocytes

Cell Lines	Drivers	Tumor
TE-10		Esophagus squamous cell carcinoma
NCI-H2052		Mesothelioma
NCI-H226		Mesothelioma or squamous cell carcinoma
A-431 (CRL1555)		Skin squamous cell carcinoma
SCC-90		Squamous cell carcinoma of the larynx
8505C	BRAF	Thyroid carcinoma
CAL-62	KRAS	Thyroid carcinoma
TT		Thyroid carcinoma

SERVICES

Technique	Description
2D Viability Assays (MTT)	Quantitative assessment of cell survival and proliferation on flat surfaces (standard plastic or laminin-coated) using colorimetric, fluorescent, or luminescent readouts. Price per drug.
3D Viability Assays (MTT)	Functional viability analysis in three-dimensional models—multicellular spheroids or Matrigel-embedded cultures—mimicking the tumor microenvironment. Price per drug.
Flow cytometry	High throughput, multiparametric analysis of suspension cells to measure surface or intracellular markers, cell cycle status, apoptosis, and more. Price per drug, five timepoints.
Western blotting	Detection and semi quantitative analysis of target proteins from cell lysates via SDS PAGE, transfer, and antibody probing. Price per gel, two proteins + housekeeping.
Gene expression analyses	Measurement of transcript levels by RTqPCR (up to 10 genes) or comprehensive profiling via RNA Seq (mRNA/miRNA libraries included). Price per gene.
Gene silencing	Specific knockdown of target genes using synthetic siRNAs or lentiviral shRNA constructs to study loss of function effects.
Ectopic expression	Overexpression of genes of interest via plasmid transfection or viral transduction (lentivirus/retrovirus) for gain of function studies.
ELISA	Plate-based immunoassay using capture and enzyme-linked antibodies to quantify proteins or antibodies (e.g., cytokines, hormones, biomarkers, serology) in various samples. Price per plate, 60 samples.
In Vivo Animal Models	Subcutaneous or patient derived xenografts (PDX) in immunodeficient mice to validate therapeutic efficacy and elucidate tumor biology.

Pre-clinical personalized research projects can be designed by our R&D Team upon request.

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