CHEMPARTNER
DEDICATED TO LIFESCIENCE

ONCOLOGY PHARMACOLOGY

OVERVIEW

With strong scientific expertise and extensive ready-to-use models, our oncology team supports drug discovery for novel target validation, *in vitro* compound profiling, *in vivo* PKPD and efficacy studies, and translational medicine.

Working together with our clients, thousands of oncology drug discovery studies have been conducted, many of which are now in clinical trials or having been approved by the FDA for clinical use.

CELL LINE-DERIVED XENOGRAFT

- Variety of models established and validated: 300+ models
- Standard of care validated in CDX models:
  - 100+ SOCs
- Capabilities continue to expand
- Compatible with cancer cell panel screens ample literature reference
- Mutation status available from public domain

PATIENT-DERIVED XENOGRAFT

- Variety of models established and validated: 500+ models
- Derived from both primary and metastatic lesions from patients
- Passaged only *in vivo*
- Resembles human disease pathologically
- Cell lines derived from some of the models
- 210+ models with whole genome/exosome sequencing and RNAseq data

SYNGENEIC TUMOR MODEL / TUMOR IMMUNOLOGY

- 50+ *in vivo* models
  - SC, IV, orthotopic, resection settings
- Efficacy studies with immunotherapy
- Combination therapy studies with checkpoint inhibitors and chemotherapeutics
- *Ex vivo* analyses
  - Flow cytometry
  - Immune cell functional assays
  - IHC, soluble factors, genetic profiling

SYNGENEIC / CDX / PDX MODELS

- Subcutaneous models
- Orthotopic models
- Genetic annotations
- PK/PD studies

READOUTS

- *In vitro* drug-sensitivity studies
- Tumor growth
- Imaging
- Pathology
- *Ex vivo* analyses

CDX

SUBCUTANEOUS MODELS

- Breast cancer (14)
  - MDA-MB-231; MCF-7; ZR-75-1; HCC70; BT-474; MDA-MB-468; T-47D; MX-1; DU4475; MDA-MB-436; HCC1569; HCC1954; MCF-7-Her2; BT-474EEI
- Colorectal cancer (14)
- HCT-116; SW620; HT-29; SW480; DLD-1; COLO 205; NCI-H716; RKO; SW948; Colo320DM; LOVO; KM12-LS513;SW48
- Gastric cancer (9)
  - HGC-27 (x); MKN-45; AGS; NCI-N87; SNU-16; OCUM-1; SNU-5; MKN-1; NUGC-3
- Glioblastoma
  - (U87MG; U87MG (nude Rat); LN229 U251; AM-38; AM-38-Luc; LN-18
- Kidney cancer (6)
  - Caki-1; A-498; 786-O; G-401; ACHN; OS-RC-2
- Lung cancer (69)
  - NCI-H446;NCI-H2171; NCI-H841; SHP-77; DMS 53: B/cUG69;NCI-H209; NCI-H524; NCI-H1930; DMS 79;NCI-H2081; NCI-H1092; NCI-H146: DMS 153; NCI-H2029; NCIH1417;NCI-H510A; NCI-H523; NCI-H1836 (SCLCtotal21) NCI-H1568; NCI-H1155; NCI-H2122; NCIH1975; NCI-H838; NC NCI-H1693; NCI-H2106; COR-L105; A549; NCIH460:NCI-H292 ;NCI-H2009; Calu-3; Calu-6; NCI-H441; NCIH727;HCC827:NCI-H661;ChaGo-K-1;NCI-H1650;NCIH596;NCI-H1395:A-427; EBC-1;NCI-H226: NCI-H1373;RERF-LC-AI; SW 1573:HCC4006,LXF-289 HARA; SK-MES-1; LK2;ABC-1;COR-L23; NCI-H2126 (NSCLC total 48)
- Liver cancer (7)
  - Hep 3B2.1-7; SK-HEP-1; HuH-7; Hep3B-OS8-Hpdl1a2; HepG2;JHH-7; PLC/PRF/5
- Cholangiocarcinoma (3)
  - KKU-055; KKU-213; YSCCC
- Melanoma (5)
  - A375; A2058; C32; IGR-1;WN266-4
- Mesothelioma (5)
  - MSTO211H; NCI-H28; NCI-H226; ACC-MESO-1; ZL34
- Ovarian cancer (10)
  - » OVCAR-3; A2780; A2780(nude Rat); Caov-3; SKOV-3; OVIES;TOV21G; COV434; TOV112D, OVK18
- Pancreatic cancer (12)
  - MIA PaCa-2; Capan-1; PANC-1; AsPC-1; CFPAC-1; BxPC-3; KP4;Panc.08.13; HPAF-II; Panc.03.27;HPAC; HUP-T4
- Prostate cancer (5)
  - PPC-3; LNCaP(x1,x2); DU145; 22RV1; MDA-PCA-2B
- Leukemia (24)
  - K562; HL-60; MV-4-11; MOLT-4; Kasumi-1; KU812; THP-1; TF-1;HEL 92.1.7; SKM-1; NOMO-1; ARH-77; Kopn-8; MOLM-13; KG-1;OCI-AML-2 (nude Rat); OCI-AML-3 (nude Rat); OCI-AML-2; OCIAML-; RS4;11; EOL-1; SKNO-1; AML-193; C8166
- Lymphoma (24)
  - NAMALWA; Daudi; Raji; Mino; DB; Toledo; SU-DHL-6; MC116; OCILy19;WSU-DLCL2; Z-138; REC-1; Granta-519; RPMI 6666; Pfeiffer;Maver-1; Farage; SUDHL-5; JeKo-1; DoHH2; JVM-2; BJAB; SUDHL-1; HuT 78
- Myeloma (8)
  - RPMI 8226; MM.1S; NCI-H929; U266B1; OPM-2; LP-1 HuNS1;MM.1R
- Bladder cancer (6)
  - RT112; HT-1376; RT112 84; UM-UC-3; 5637; HT-1197
- Neuroblastoma (5)
  - BE(2)-C; SH-SY5Y; SK-NDZ;HP-212; KELLY
- Epidermoid carcinoma (2)
  - A431; CAL-27
- Endometrium adenocarcinoma(5)
  - AN3CA; MFE-296;MFE-280; HEC-1-A;HEC-1-B
- Cervical adenocarcinoma (7)
  - Hela; C-33 A; Ca Ski; SiHa;MS751; SKG-IIIa; DoTc24510
- Medullary thyroid (1)
  - TT
- Epithelioid Sarcoma (1)

ORTHOTROPIC MODELS

- Breast Cancer (4)
  - MDA-MB-468; MDA-MB-231; xMDA-MB-468-luc;xMDA-MB-231-Luc
- Liver cancer (2)
  - Hep3B-Luc ; SK-Hep-1-luc
- Glioblastoma (3): U87MG; U87MG-Luc
- Ovarian(2)
  - OVCAR-3, SKOV-3-Luc
- Lung cancer (1)
  - NCI-H1299-luc
- Human Multiple Myeloma(1)
  - RPMI8226
- Prostate cancer (2)
  - PC-3-luc; x1LNCaP-luc
- Colorectal cancer (1)
  - HCT116-luc
- Bladder (1)
  - UM-UC-3-Luc
- Pancreatic (1)
  - Panc-1-luc
- Kidney (1)
  - ACHN-Luc

SYSTEMIC-SURVIVAL MODELS

- Leukemia (10)
  - K562;KU812:MV-4-11;HEL 92.1.7; THP-1;HL-60; MOLM-13,RS4;11; MV-4-11; MV-4-11-Luc; OCI-AML3-Luc2
- Lymphoma (4)
  - NAMALWA; Daudi; Raji; Raji-luc
- Myeloma (1)
  - LP-1
- Neuroblastoma (1)
  - BE(2)-C
- Liver cancer (1)
  - HepG2-Luc

METASTATIC MODELS

- Lung Cancer (6)
  - NCI-H1299-Luc (via brain); PC-9-luc (via brain0: NCI-H358-Luc2 9via brain); NCI-H1975-Luc2(via brain); NCI-H1975-Luc (via brain); NCI-H1975-Luc (via intracarotid); PC-9-Luc (via intracarotid)
- Melanoma (3)
  - A-375 (via brain); A375-luc (via intracardiac, brain)
- Prostate Cancer (2)
  - PC-3-Luc (via intracardia,by orthotopic)
- Breast Cancer (2)
  - xBT-474-Luc (via brain,carotid arterie)
- Glioblastoma (1)
  - U-87 MG-Luc (via postate)
- Ovarian (2)
  - SK-OV-3-Luc(by orthotopic); SK-OV- -Luc (via ascitic)
- Colon (1)
  - HCT-116-Luc(by orthotopic)

PDX

PROPRIETARY PDX-RELATED TUMOR CELL LINES

- 50+ primary cancer cell lines used in cell panel screening
- Cancer types: gastric, liver, pancreatic, CRC, lung
- Multiple publications in international journals and patents
- Related CDX model ready and validated with SOC
- Bridge between high throughput cell panel screening, CDX, and highly relevant PDX models screening
- MOA study, labeling possible
- Characterizations including morphology and biomarker, chromosome and STR, growth kinetics, genetic characterization, tumorigenicity, etc.
- Exosome sequencing and RNAseq for ~20 of the cell lines

SAMPLE BANK

- Frozen tumor (biomarker analysis)
- Serum/plasma
- Corresponding cell lines
- Primary tumor model

PRIMARY TUMOR CELLS

- Drug sensitivity assay
- Drug combination test

MOUSE STRAINS

- BALB/c-nude
- Nu-nu mice
- SCID mice
- NOD/SCID
- NOG

SYNGENEIC MODELS AND TUMOR IMMUNOLOGY

MODELS

- Colorectal (6): CT26.WT*#(s.c.; i.v.), CT26.WT-Luc(i.v.; i.s.; ortho),
- MC-38*#(s.c.), MC38-hPD-L1 (s.c.), Colon 26(s.c.), MC-38-luc(ortho)
- Breast (5): 4T1*(s.c.; ortho; i.v.); 4T1-Luc2(ortho; i.v.); EMT6*(s.c.; ortho); EpH4 1424 (s.c.); JC(s.c.)
- Melanoma (5): B16F10*(s.c., i.v.); B16-FO(s.c.); B16-F1(s.c.); Clone M3(s.c.); B16F10-Luc(f.p.)
- Liver (4): Hepa 1-6*(s.c.), H22(s.c.; ortho), Alb - Cre /H11-LSLcmyc(s.c.), H22-luc(ortho)
- Pancreatic (4): Pan 02(s.c.); KPC (cell, s.c.); KPC(primary, s.c.); Pan02-Luc(ortho)
- Lung cancer (6) : LL 2(LLC1, s.c.; i.v.)*, KLN205(s.c.); L1C2(s.c.); Ex-LL3(s.c.); 3LL(s.c.); Ex-LL3-Luc(i.v.)
- Prostate (1): RM-1(s.c.)
- Fibrosarcoma(3): Sal - N (s.c.), M -7(s.c.), WEHI 164(s.c.)
- Myeloma (2): J558(s.c.), MPC -11(s.c.)
- Sarcoma (1): J774A.1(s.c.)
- Osteosarcoma(1): K7M2(s.c.)
- Renal (1): Renca*(s.c.)
- Leukemia (2): WEHI -3(i.p.), L1210(i .p.)
- Mastocytoma (1): P815(s.c.)
- Bladder (1): MBT-1#(s.c.)
- Lymphoma (5): A20*#(s.c.; i .v.), EL4*(s.c.), EG7-OVA(s.c.),
- P388D1(s.c.), L5178Y(s.c.)
- Glioma (1): GL261(s.c.)
- Ovary (2): ID8(i.p.), ID8-luc(i.p.)
- Rat breast cancer(1): MADB106(s.c.)
- Rat Glioma(1): C6(s.c.)

CELL-BASED ASSAYS / *EX VIVO* ANALYSES

- Primary immune assays
- Cell surface / intracellular marker expression by FACS
- Cytotoxicity assay / ADCC
- ELISA, Luminex
- Gene expression profiling
- Immunohistology

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