Biomarkers: An approach to targeting SMARCB1-deficient sarcomas

Published by The Institute of Cancer Ressearch

Product sector Biotech/Pharma

Partnering status Available for out-licensing

Marketing rights available/sought

Main sector Neoplasms / cancer / oncology

Subsector n/a

Description The basis for dual targeting SMARCB1-deficient sarcomas with inhibitors towards PDGFRalpha and FGFR1.

Key publications Wong et al. (2016) Dual targeting of PDGFRalpha and FGFR1 displays synergistic efficacy in malignant rhabdoid tumours. Cell Reports, Vol. 17(5), pp. 1265-1275

Biomarkers: Diagnostic for sensitivity to ATR inhibition

Published by The Institute of Cancer Ressearch

Product sector Biotech/Pharma

Partnering status Available for out-licensing

Marketing rights available/sought

Main sector Neoplasms / cancer / oncology

Subsector n/a

Description Method of identifying cancer patients likely to be responsive to treatment with an ATR inhibitor. Deficiency in ARID1A, a subunit of the SWI/SNF chromatin remodelling complex, has been identified as a potential genetic biomarker for synthetic lethal effects of the DNA damage checkpoint inhibitors, ATR inhibitors in human cancer.

Key publications Lord et al. (2016) ATR inhibitors as synthetic lethal therapy for tumors deficient in ARID1A. Nature Communications, Vol.7, pp. 13837.

Biomarkers: Biomarker to identify patients for PARP inhibitor treatment

We have identified that SF3B1 mutant tumours are selectively sensitive to PARP inhibitors. This includes Talazoparib and Olaparib among others. SF3B1 is mutated in chronic lymphocytic leukaemia, uveal melanoma and breast cancer. The discovery is patented and is currently at the PCT stage. We are seeking a licensing or collaboration partner to develop the diagnostic.

Paper: https://www.ncbi.nlm.nih.gov/pubmed/25424858, SF3B1 mutations constitute a novel therapeutic target in breast cancer.

Maguire SL, J Pathol. (2015) 235(4):571-80.

Patent: WO2018/224536

Biomarkers: Biomarker to identify patients for CDK4/6 inhibitor treatment

We have identified that triple-negative breast cancers with loss of CREBBP expression are selectively sensitive to CDK4/6 inhibition. This would mean a wider set of patients may benefit from these drugs.

We are seeking a licensing or collaboration partner to develop the diagnostic.

Patent: WO2018228990

Devices: Device for tissue processing

Published by The Institute of Cancer Ressearch

Product sector Medical Technology

Partnering status Available for out-licensing

Marketing rights available/sought

Sector Imaging

Description Laboratory tool for rapid and accurate slicing of fresh tissue samples, providing for co-alignment with tissue imaging. Several prototypes sold to academic researchers.

Key publications Jhavar, S. G. et al. Processing of radical prostatectomy specimens for correlation of data from histopathological, molecular biological, and radiological studies: a new whole technique. J. Clin. Pathol. 2005; 58:504-508.

IP rights Patent granted in UK, GB2404607B

Devices: Endocovitary coil for 3T-MRI

Published by The Institute of Cancer Ressearch

Product sector Medical Technology

Partnering status Available for out-licensing

Marketing rights available/sought

Sector Imaging

Description Endocovitary coil for improved 3T-MR diagnostic imaging of the cervix (proof of concept, clinical investigations ongoing).

Devices: PolyScope

Published by The Institute of Cancer Ressearch

Product sector Medical Technology

Partnering status Available for out-licensing

Marketing rights available/sought

Sector Imaging

Development phase Development

Description PolyScope is a combined software and hardware solution for visualisation of digital microscopic samples. It is independent of platform and operating system and allows for synchronisation of image views with fully automated workflows. The system also provides remote viewing together with remote collaborative annotation of slides.

Key publications http://yuanlab.org/polyzoomer/index.html

Targeting: Monocolonal antibodies against Cerb-B2 (HER2)

Published by The Institute of Cancer Ressearch

Product sector Biotech/Pharma

Partnering status Available for out-licensing

Marketing rights available/sought

Main sector Neoplasms / cancer / oncology

Subsector n/a

Molecule type Antibody

Description A panel of rat anti Cerb-B2 antibodies with high affinity cell surface binding to the erbB2 protein core has been developed and is now available for diagnostic and therapeutic applications.

Extensive pre-clinical evaluation is completed.

Targeting: Monocolonal antibodies against EGFR

Published by The Institute of Cancer Ressearch

Product sector Biotech/Pharma

Partnering status Available for out-licensing

Marketing rights available/sought

Main sector Neoplasms / cancer / oncology

Subsector n/a

Molecule type Antibody

Description A set of high-affinity rat monoclonal anti EGFR antibodies with diverse specificities across the external domain has been developed and are available to license for diagnostic and therapeutic applications.

Therapeutics: Gene Directed Enzyme Prodrug Therapy

Published by The Institute of Cancer Research

Product sector Biotech/Pharma

Partnering status Available for out-licensing

Marketing rights available/sought

Main sector Neoplasms / cancer / oncology

Subsector n/a

Development phase Preclinical

Molecule type Other Macromolecule

Description Gene-Directed Enzyme Prodrug Therapy. Bacterial carboxypeptidase G2 (CPG2) enzyme. Exclusive rights in the GDEPT field to develop with an alkylating agent prodrug. Wide range of additional prodrugs. Rights to novel vectors and molecular imaging probes.

Demonstrated proof of concept in preclinical human tumour xenograft models in vivo in lung, colorectal carcinoma, hepatoma, head & neck human tumour xenografts. First product in pre-clinical development.

Key publications Schepelmann, S. et al. Systemic gene-directed enzyme prodrug therapy of hepatocellular carcinoma using a targeted adenovirus armed with carboxypeptidase G2. Cancer Res. 2005, 65, 5003-8.

Hedley D;Ogilvie L;Springer C. Carboxypeptidase G2-based gene-directed enzyme-prodrug therapy: a new weapon in the GDEPT armoury. Nat Rev Cancer 2007; 7 :870-879.

Schepelmann S et al. Suicide gene therapy of human colon carcinoma xenografts using an armed oncolytic adenovirus expressing carboxypeptidase G2. Cancer Res 2007; 67 (4949-4955)

IP rights GB 0011060

GB 201310917

Therapeutics: Novel LOX inhibitors

Published by The Institute of Cancer Ressearch

Product sector Biotech/Pharma

Partnering status Available for out-licensing

Marketing rights available/sought

Main sector Neoplasms / cancer / oncology

Subsector Pancreatic cancer

Development phase Lead optimization

Molecule type Small Molecule/NCE

Description LOX expression is regulated by hypoxia inducible factors (HIFs) and LOX is upregulated in hypoxic tumours. Secreted LOX leads to invasion and metastases and hence inhibitors of LOX prevent tumour progression and

metastases. Our selected inhibitors have primary anti-tumour efficacy as well as anti-metastatic activity. The programme is currently at late lead optimisation and has ongoing funding from the Wellcome Trust.

Key publications Erler J.T. et. al., Lysyl oxidase is essential for hypoxia-induced metastasis. Nature 2006; 440: 1222-1226.

Partners The Wellcome Trust