



Portfolio of Selected Licensing & Partnering Opportunities

Making the discoveries that defeat cancer



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B-RAF Inhibitors

Wellcome Trust collaboration and licensing opportunity

Principal Scientists: Prof Richard Marais and Prof Caroline Springer

Project: Novel inhibitors of enzyme B-RAF. Three pre-clinical candidates. Being tested.

Status: Demonstrated proof of concept in vivo. Compounds are orally active in a range of melanoma and colorectal xenograft models mutant for BRAF or mutant for RAS.

Patents

PCT/GB2005/004081, PCT/GB2007/001534, PCT/GB2008//004208, PCT/GB2005/005011

Publication:

Davies et al. 2002 Nature 417, 949-954

Heidorn et al. 2010 Cell 140, 209-21

Niculescu-Duvaz D et al, "Pyridoimidazolones as Novel Potent Inhibitors of v-Raf Murine Sarcoma Viral Oncogene Homologue B1 (BRAF)" J Med Chem 2009 52, 2255-2264. PubMed; DOI: 10.1021/jm801509w.

Whittaker S et al. "A novel selective and efficacious nanomolar pyridopyrazinone inhibitor of V600EBRAF" 2010. Cancer Research 2010 70, 8036-44

LOX

Wellcome Trust collaboration and licensing opportunity

Principal Scientists: Prof Richard Marais and Prof Caroline Springer

Project: Lysyl oxidase (LOX) is an extracellular enzyme that is responsible for crosslinking of collagen and elastin. 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 should prevent tumour progression and metastases.

Status: Optimisation of Lead Compounds

Publication:

Erler J.T. et. al.

"Lysyl oxidase is essential for hypoxia-induced metastasis."

Nature (2006) 440, 1222-1226

Tankyrase

Wellcome Trust collaboration and licensing opportunity

Principal Scientists: Prof Alan Ashworth and Dr Chris Lord

Project: Tankyrase is a member of the PARP superfamily and inhibition of this enzyme offers the opportunity to target two of the most common characteristics of tumour cells – the dependency upon telomere maintenance and Wnt dependency. Novel nanomolar IC50 drug-like small molecule tankyrase inhibitors have been designed and are in development

for use in cancer therapy, including colorectal cancer where constitutive Wnt signalling is one of the more predominant characteristics and small molecule tankyrase inhibitors have been shown to restrict Wnt signalling and inhibit colorectal tumour cells.

Status: Optimisation of Lead Compounds

Publication: McCabe, N et al. 2009. Targeting Tankyrase 1 as a therapeutic strategy for BRCA-associated cancer. Oncogene 28, 1465-1470 (2009).

Targets

Glypican 5 A Novel Cancer Target (GCP5)

ICR collaboration and licence opportunity

Principal Scientist: Dr Janet Shipley

Project: GPC5 has been identified as a potential therapeutic target in soft tissue sarcoma, breast carcinoma, lung carcinoma, lymphoma, medulloblastoma and glioblastoma. This target is amenable to antibody mediated therapies. It also has potential as a biomarker

Status: Antibody development and further validation of the target/biomarker

Patents: Granted Patents in Europe & US. US 7855182B2, EU 1727901

Publication:

Shipley, J. et al. "Role of Amplification and Expression of Glypican-5 in Rhabdomyosarcoma" *Cancer Res* (2007) 67: 57-65.

A Novel Histone Deacetylase Associated with Cancer (HDAC9)

ICR collaboration and licence opportunity

Principal Scientist: Dr Arthur Zelent

Project: Characterisation of a novel HDAC associated with cancer. Potential drug target and diagnostic marker

Patents: Patents filed and granted in EP, US and JP. EP1432792, JP2005503824, US2005130146

Publication: Petrie, K. et al. "The Histone Deacetylase 9 Gene Encodes Multiple Protein Isoforms." *J. Biol. Chem.* (2003) 278 16059-16072.

Status: Validation phase. Gene product characterised

Diagnostic Biomarkers

Anti-KSR Monoclonal Antibodies

Cancer Research Technology commercial opportunity available for non-exclusive license

Principal Scientist: Prof Richard Marais

Project: Clone name: MINT/1/4 Host species: rat Ig isotype: IgG2a Immunogen: Full length mouse KSR-GST fusion protein

Status

Antibody available for licensing

Publication:

Giblett, SM et al. "Expression of kinase suppressor of Ras in the normal adult and embryonic mouse," Cell Growth & Diff. (2002) 13 7 307-313.

Monoclonal Antibodies Against EGFR

ICR licensing opportunity

Principal Scientist: Dr Suzanne Eccles

Project: A set of rat monoclonal anti EGFR antibodies has been developed and are available to licence for diagnostic and therapeutic applications.

Status

Extensive preclinical characterisation completed. One antibody has completed Phase 1B Clinical trials.

Hybridomas owned by ICR

Monoclonal Antibodies Against Cerb-B2 (Her2 or Neu)

ICR collaboration and licence opportunity

Principal Scientists: Dr Steve Hobbs Dr Suzanne Eccles

Project: A panel of rat anti Cerb-B2 antibodies has been developed and is now available for diagnostic and therapeutic applications.

Status: Extensive pre-clinical evaluation is completed.

Hybridomas owned by ICR

Devices

Device for Tissue Processing

ICR licensing opportunity

Principal Scientists: Dr Sameer Jhavar and Dr Stefan Reinsberg

Project: Laboratory tool for rapid and accurate slicing of fresh tissue samples, providing for co-alignment with tissue imaging.

Status: Several prototypes sold to academic researchers

Patent: Patent granted in UK, GB2404607B

Publication:

SG Jhavar 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

Method and Cutter for Tissue Microarrays

ICR exclusive commercialisation rights

Principal Scientists: Prof Colin Cooper and Ms Anne Fletcher

Project: Method for the production of tissue arrays from needle biopsies allowing high sample density and laboratory tool for precise cutting of samples

Status: Prototype under evaluation

Patents: Patent filed PCT/GB2010/000921 F

Publication:

McCarthy et al. "An improved method for constructing tissue microarrays from prostate needle biopsy specimens" J. Clin. Pathology (2006) 62 694-698.

Endocavitary Coil for 3T-MRI

Institute of Cancer Research collaboration and licence opportunity

Principal Scientist: Prof Nandita de Souza

Project: Endocavitary coil for improved 3T-MR diagnostic imaging of the cervix

Status: Proof of concept, clinical investigations ongoing.

Patents: PCT/GB2011/000667

Dosimetry for Radionuclide Treatment

ICR collaboration and licence opportunity

Principal Scientist: Dr Glenn Flux

Project: Software package for image analysis and dosimetry applied to targeted radionuclide therapy

Status: Used routinely to support clinical research studies. Needs further software development for commercialisation.

Patents: Proprietary software and know-how

Publication:

Guy MJ, Flux GD, Papavasileiou P, Flower MA, Ott RJ. RMDP: A dedicated package for I-131 SPECT quantification, registration and patient-specific dosimetry. Cancer Biother and Radiopharm 18: 61-9, 2003.

3D Kinetic Volume Rendering Tool for MRI

ICR collaboration and licence

Principal Scientist: Prof Martin Leach

Project: Software to enable separate display of MIPs derived from different phases of MR contrast capable kinetics.

Status: Evaluation on-going.

Patents: Patents filed in EP, US and JP. WO 2007/054662 A1.

Publication:

Khazen M. et al. "Assessing tumour extent and heterogeneity on T1-weighted 3D DCE-MRI of the Breast: Comparative study of the computational fat suppression algorithm, and quantitative pharmacokinetic modelling," Proc. Intl. Soc. Mag. Reson. Med. (2005) 13 88.

Software

MRI Distortion Correction

ICR collaboration and licence

Principal Scientist: Dr Simon Doran

Project: Algorithms for evaluation and correction of geometric distortion in MR images, for applications including radiotherapy treatment planning.

Status: Evaluation on-going

Publication:

Reinsberg SA et al. "A complete distortion correction for MR images: I Gradient warp correction," Phys.Med. Biol. (2005) 50 1343-1361

4D Orthogonal Display Tool

ICR collaboration and licence

Principal Scientist: Prof Martin Leach

Projects: Software tool for rapid identification of tissue movement artifacts during analysis of dynamic MRI data sets.

Status: Evaluation on going

Patents: Patents filed in EP, US and JP. Granted in EP as EP1652150.



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