

Licensing Opportunities



Therapeutics, Diagnostics & Enabling Technology

- Oncology-focused development and commercialisation company
- Over 250 projects originating from a global network of exclusive or established partnerships
- Opportunities from centres of excellence in drug discovery, including CRT's Discovery Laboratories
- Opportunities available for licensing or collaboration (with top academics) from discovery to clinical

Updated December 2009

SMALL MOLECULES

Inhibitors of LIMK1 and LIMK2 (New)

CRT Discovery Laboratories Project

Hit-to-Lead/Lead Optimisation

LIMK1 and LIMK2 are emerging targets for both cancer and ocular disease. They are up-regulated in metastatic breast and prostate tumours. Over-expression has been demonstrated to increase tumour cell migration and invasion and to increase tumour growth, angiogenesis and metastasis in vivo. Conversely, abrogation of LIMK function results in decreased breast cancer cell motility and formation of osteolytic bone lesions in an animal model of invasion. Down-regulation of LIMK1 has been demonstrated to reduce inflammation in a mouse model of ocular surgery and small molecule inhibition or genetic deletion of LIMK2 is effective in reducing intraocular pressure in mouse models, a key risk factor in disease progression in glaucoma. CRT has developed two series of novel, potent, ATP-competitive small molecule inhibitors of LIMK1/2 which (i) inhibit the ability of cancer cells to invade in multiple authentic cancer cell invasion assays, and (ii) sensitise tumour cells to cell death induced by chemotherapeutic agents.

CRT is now seeking a commercial partner to progress these exciting compounds under a licensing or co-development model.

Contact: *Dr Laura Fletcher lfletcher@CancerTechnology.com*

Senectus Therapeutics Limited (New)

Investment or Collaboration

Assay Development & Early Screening

Senectus Therapeutics Ltd is a CRT led company focused on developing small molecules that induce cellular senescence in cancer cells working via modulation of telomeres, tumour suppressor gene expression, epigenetics and autophagy. Senectus is founded on a custom-built, multi-disciplinary consortium of world-leading academic scientists and their rapidly advancing understanding of cellular senescence in cancer biology. Their unique approach will deconvolute senescence signalling pathways and build a network of genes for target and biomarker discovery. The outcome of the first phase of the initiative will be identification of critical pathways in cellular senescence, development of screens that identify compounds that modulate those pathways and small molecule and target leads to seed drug development programs.

Senectus has secured \$1M in translational funding and is currently seeking further investment. Further financing could take the form of equity or programme-specific collaborative investment.

Contact: *Dr Sarah Molton smolton@CancerTechnology.com*

Licensing Opportunities

Novel Radiolabelled Bisphosphonates

In Vivo Proof-of-Principle

Bone metastases are a major problem in many of the largest cancer indications and improved imaging agents or treatments for such patient groups would represent a significant market. We have developed and patented novel compounds which may overcome the clinical limitations associated with currently used radiolabelled bisphosphonates and increase their utility in both the imaging and therapeutic contexts. These novel compounds have simple and efficient synthesis routes and provide a means to overcome the poor stability and sub-optimal biodistribution of current agents. We are seeking a licensee to undertake further development of these compounds and clinical testing in imaging and/or therapeutic contexts under a licensing or collaborative relationship.

Contact: *Dr Angus Lauder, alauder@CancerTechnology.com*

Protein Kinase D (PKD)

CRT Discovery Laboratories Project

In Vivo Proof-of-Principle

Members of the protein kinase D family have been shown to play an integral part in signalling cascades that are aberrantly activated during a number of pathological conditions including cancer, angiogenesis and cardiac hypertrophy. Two series of potent and selective inhibitors of PKD have been developed. The optimised compounds have potent activity in cell based assays with the lead series exhibiting oral bioavailability and *in vivo* efficacy in xenograft models. CRT is now seeking a commercial partner for this first-in-class pre-clinical and clinical development programme.

Contact: *Dr Raj Mehta, rmehta@CancerTechnology.com*

Chk1 Inhibitor Programme

In Vivo - Proof-of-Principle

Chk1 is a serine/threonine kinase that is phosphorylated and activated in response to DNA damage, initiating a signalling cascade culminating in cell cycle arrest in the S and G2/M phases. Inhibition of Chk1 has been shown to abrogate cell cycle arrest leading to enhanced tumour cell death following DNA damage by a range of chemotherapeutics. Chk1 inhibitors are anticipated to provide a therapeutic strategy for enhancing the effectiveness of the genotoxic agents currently used in cancer treatment. ATP-competitive inhibitors exhibiting low nM activity against Chk1 have been developed. Optimised compounds have potent activity in cell-based assays, with the Lead Series exhibiting efficacy *in vivo* in combination with irinotecan and gemcitabine in human colon cancer xenografts. The programme also comprises novel IP, established biological assays and co-crystallographic expertise. CRT is now offering prospective commercial partners global rights to the Chk1 programme on an exclusive basis for all fields.

Contact: *Dr Phil Masterson, pmasterson@CancerTechnology.com*

Novel Photosensitiser - Nanoparticle Conjugates

In Vivo Proof-of-Principle

A novel gold nanoparticle-photosensitiser conjugate technology has been developed for application in therapeutic and related fields. *In vivo* proof of principle studies show that administration of the nanoparticle conjugates results in increased inhibition of tumour growth over both free photosensitiser and currently marketed PDT products. The conjugates also exhibit excellent photo and general toxicity profiles. CRT is seeking a commercial licensing or collaborative development partner.

Contact: *Dr Theo Balasas, tbalasas@CancerTechnology.com*

Atypical Protein Kinase C (PKC)

CRT Discovery Laboratories Project

Lead Optimisation

PKC ι and PKC ζ together define the atypical sub-class of the Protein Kinase C (aPKC) family. They have been implicated in diverse cellular processes including regulation of cell polarity, and the control of cellular migration and growth. Recent clinical and genetic evidence has suggested that the aPKCs play a key role in driving tumorigenesis. Inhibitors of aPKC are anticipated to act as direct anti-proliferative, anti-metastatic and chemopotentiating agents in tumours driven by high levels of aPKC expression and activity. Two series of ATP-competitive inhibitors exhibiting low nM activity against aPKCs have been developed. In phenotypic assays, aPKC inhibition leads to i) a pronounced decrease in proliferation of NSCLC and ovarian cancer cells, and ii) blocks the anchorage independent growth of NSCLC cell lines. CRT is now seeking a commercial partner for this first-in-class Lead Optimisation programme.

Contact: *Dr Phil Masterson, pmasterson@CancerTechnology.com*

Licensing Opportunities

PIP5 Kinase Inhibitors

CRT Discovery Laboratories Project

Lead Optimisation

Phosphatidylinositol-4-phosphate 5-kinases (PIP5K) are responsible for phosphatidylinositol-4,5-bisphosphate (PIP2) production. PIP2 plays a pivotal role in cytoskeletal organisation, cell proliferation, survival and apoptosis. Inhibition of PIP5K leads to anti-proliferative and pro-apoptotic responses. Lead Optimisation stage compound series with low nM IC₅₀ activities have been developed. These potent compounds are effective in cellular models and show good *in vivo* pharmacokinetic properties. Associated with the programme is novel IP and a patented biochemical assay. CRT is now seeking a commercial partner interested in pursuing a co-development arrangement to further progress this programme.

Contact: *Dr Roisin NicAmhlaoibh, rnicamhlaoibh@CancerTechnology.com*

Chk2 Inhibitor Programme

Lead Optimisation

A potent and selective compound series with low nM activity against the Chk2 cell-cycle checkpoint kinase has been developed. This programme currently comprises novel patented compounds, established biological assays, co-crystallographic methods to support and inform ongoing medicinal chemistry and novel synergy studies. CRT is now seeking a commercial partner interested in pursuing a co-development or direct licensing arrangement.

Contact: *Dr Laura Fletcher, lfletcher@CancerTechnology.com*

CYP26 inhibitor Programme (New)

Lead Optimisation

CYP26, a cytochrome P450 enzyme, is induced in response to retinoic acid treatment and provides the main route for metabolism of all-trans retinoic acid (ATRA). The initially impressive therapeutic effects of ATRA and its isomer (13-cis retinoic acid) are undermined by CYP-26-mediated resistance. A series of potent and selective CYP26 inhibitors has been developed and CRT is seeking a commercial partner interested in pursuing a co-development and/or licensing arrangement to further progress this programme.

Contact: *Dr Tanya Moore, tmoore@CancerTechnology.com*

Novel Inhibitors of Aurora Kinase

ICR Project

Lead Optimisation

A potent series of compounds with low nM activity against Aurora-A and Aurora-B has been discovered. Compounds from this series have demonstrated good cellular activity and oral *in vivo* activity in colon and ovarian tumour xenografts. On-going medicinal chemistry efforts are focusing on optimising PK properties whilst maintaining potency and cell based activity. The programme also comprises novel IP including a patented lead series, established biological assays, cellular and *in vivo* PD biomarkers and on-going studies to identify patient populations most likely to respond to Aurora inhibition. In addition, a crystallography driven programme focusing on Aurora-A selective inhibitors has been initiated. This programme has identified lead compounds with cellular selectivity (>50 fold) for Aurora A versus Aurora B. CRT is now seeking a commercial partner to further progress the pan-Aurora and/or the Aurora-A selective programmes.

Contact: *Dr Anne Horgan, ahorgan@CancerTechnology.com*

Novel Histone Deacetylase (HDAC) Inhibitors

Lead Optimisation

Novel, highly selective HDAC inhibitors have been developed and *in silico* techniques continue to support these compounds through lead optimisation. The compounds possess sub-micromolar potency against key isoforms and display a desirable *in vitro* ADME profile. Promising activity has been demonstrated in several subsets of NCI's tumour cell panel. World-wide rights to the patented compounds are available for licensing.

Contact: *Dr Surbhi Gubta, sgubta@CancerTechnology.com*

Licensing Opportunities

Inhibitors of the MDM2-p53 Protein-Protein Interaction

Hit-to-Lead/Lead Optimisation

A novel series of potent MDM2-p53 inhibitors that display a cellular response consistent with the activation of p53. Significant SAR has been generated around the isoindolinone scaffold and structural data is available from an ongoing academic collaboration. The compounds are the subject of three filed patent applications. CRT is now seeking a commercial partner interested in collaborating with the academic groups to further progress this programme.

Contact: Dr Tanya Moore, tmoore@CancerTechnology.com

Axl Kinase Inhibitors

CRT Discovery Laboratories Project

Hit-to-Lead

Axl kinase is a receptor tyrosine kinase which is over-expressed in a number of solid tumours. The kinase is oncogenic and is involved in cell invasion, migration, angiogenesis and also has pro-survival activities. Knock-down of Axl in human breast cancer tumour cells inhibits xenograft growth *in vivo*. Hit-to-lead stage compound series with low nM IC₅₀ activities have been developed. CRT is now seeking a commercial partner to co-develop and further progress this programme.

Contact: Dr Theo Balasas, tbalasas@CancerTechnology.com

Hypoxic Response Inhibitors

Hit-to-Lead

Novel derivatives of ketoglutarate have been developed and demonstrated to reduce HIF-1 alpha levels in cells under hypoxic conditions. *In vivo* proof-of-principle efficacy demonstrated with prototype compounds. The compounds may also be applicable to the treatment of cancers in patients predisposed to neoplasia through mutations within the Krebs tricarboxylic acid cycle (TCA cycle).

Contact: Dr Roisin NicAmhlaibh, rniamhlaibh@CancerTechnology.com

BIOLOGICAL THERAPEUTICS

CLEC9A: A Novel Dendritic Cell Antibody Target

In Vivo Proof-of-Principle

Dendritic cell NK lectin Group Receptor-1 (DNGR-1) is a c-type lectin with expression profile that is highly restricted to a subset of dendritic cells that are known to be highly efficient at MHC class I cross-presentation of foreign and self antigens. *In vivo* administration of anti-DNGR1 antibody conjugated tumour antigens elicit strong antigen specific cytotoxic T-cell response resulting in potent anti-tumour response in both prophylactic and therapeutic setting. CRT is seeking a commercial partner for further development of this technology for anti-cancer and infectious disease vaccines.

Contact: Dr Raj Mehta, rmehta@CancerTechnology.com

Boosting Antibody Response (New)

In Vivo Proof-of-Principle

This patented platform technology enables generation of potent antibody response to antigen of choice without the requirement of CD4 T cell help. The circumvention of Th cell requirement enables faster and more potent Antibody response to the antigen(s) of choice. In addition, this also allows generation of antibody response to antigens without the need for MHC class II epitopes. The technology relies on enlisting either Galcer/iNKT cell or B cell resident TLRs (or both) for specifically activating only the B cells presenting the antigen cognate B cell Receptor. Faster and more potent antibody response can be utilised for generation of more efficient vaccines and generation of monoclonal antibodies to antigens that do not contain any MHC class II epitopes.

Contact: Dr Raj Mehta, rmehta@CancerTechnology.com

Licensing Opportunities

Novel Tumour Endothelial Markers (New)

Target Validation

A series of novel, patented antibody targets that have been shown to be selectively expressed in tumour endothelial cells. Functional inhibition indicates that antibodies to these targets would have potential for development as both anti-angiogenesis and vascular targeting agents for cancer and other diseases that are associated with pathological angiogenesis.

Contact: Dr Raj Mehta, rmehta@CancerTechnology.com

Migration Stimulating Factor (MSF)

CRT Discovery Laboratories Project

In Vitro Proof-of-Principle

MSF is a potent mitogenic and angiogenic factor. It can be expressed by the three principal cell types found in common human tumours (carcinoma, fibroblast and endothelial). These cells are responsive to MSF in terms of the stimulation of cell migration/invasion, hyaluronan synthesis and angiogenesis. In collaboration with investigators at the University of Dundee, CRT's Discovery Laboratories (CRTDL) have undertaken pre-clinical studies which have validated MSF as an anti-angiogenic target and highlighted the promising cancer therapeutic potential of inhibiting MSF using a function-neutralising monoclonal antibody. Additionally, accurate measurement of MSF levels in the serum (ELISA) and/or tissue samples (IHC) from cancer patients may afford a means of improving cancer diagnosis and prognosis.

Contact: Dr Tanya Moore, tmoore@CancerTechnology.com

Leptin Antagonists as Cancer Therapeutics

In Vivo Proof-of-Principle

Over the last 5 to 10 years evidence has been accumulating that leptin signalling plays an important role in the development and maintenance of a number of cancers. Evidence of overexpression in tumours, data from genetic ablation studies and the fact that leptin promotes the proliferation of a wide range of cancer cell lines all points to a role for leptin signalling in cancer. This technology is based on the identification of peptides derived from the leptin protein which act as potent antagonists of leptin receptor signalling. The lead peptides have been shown to be effective inhibitors *in vitro* and also against tumour models such as the 4T1 model and MCF7 xenografts. Very recent data has also suggested that these peptides may be effective therapeutics in a murine endometriosis model. In pegylated form the peptides have long *in vivo* half lives and the peptides have shown no signs of toxicity or effects on body weight.

Contact: Dr Angus Lauder, alauder@CancerTechnology.com

PASD1: Proprietary Tumour Specific Antigen

In Vivo Proof-of-Principle

PASD1 is a novel tumour specific cancer testis antigen, whose wide expression profile in a variety of haematological malignancies (including DLBCL, AML, follicular lymphoma, mantle cell lymphoma, MALT lymphoma, Burkitt's lymphoma, Hodgkin's lymphoma, T-acute lymphoblastic lymphoma and multiple myeloma) and solid tumours (including melanoma, lung, head and neck and colorectal carcinoma), combined with the proven immunogenicity of PASD1 peptides, make it an attractive candidate for cancer vaccine development. CRT and Isis Innovation are seeking a commercial partner for further development of PASD1-based immunotherapy under a licence to the PASD1 patents.

Contact: Dr Maria Makri, mmakri@CancerTechnology.com

MUC1: Naked DNA Cancer Vaccine

In Vivo Proof-of-Principle

Recent results of clinical trials with MUC1-based agents have attracted considerable interest in MUC1 as potential target antigen for immunotherapy of breast, pancreas, ovarian and other cancers. Studies using a proprietary human MUC1 transgenic mouse have shown that MUC1-based naked DNA immunotherapy elicits an anti-tumour response. An exclusive license to CRT's MUC1 patent portfolio in the field of naked DNA based therapy and non-exclusive rights to the huMUC1 transgenic mouse model are available.

Contact: Dr Raj Mehta, rmehta@CancerTechnology.com

Licensing Opportunities

CEA Antibodies

Clinical Phase I

MFE-23 is a single chain Fv antibody that has high affinity for the tumour specific antigen CEA. Successful preclinical and clinical studies support its potential for use in targeted cancer therapies and as an imaging agent. These include Phase I studies of radiolabelled MFE-23 for use as an imaging agent, for radioimmunoguided surgery and as the tumour-targeting moiety of an antibody directed enzyme prodrug therapy. A Phase I study of autologous T cell therapy is in progress. Humanised MFE-23 and higher affinity variants are also available.

Contact: Dr Tanya Moore, tmoore@CancerTechnology.com

Therapeutic HPV Vaccine

Clinical Phase II

TA-CIN, a human papillomavirus (HPV) vaccine, has been developed for the prevention and/or treatment of HPV-related diseases including vulval, anal and cervical intraepithelial neoplasias and cervical cancer. TA-CIN is a subunit vaccine comprising L2/E6/E7 proteins from HPV16, designed to generate a strong cellular immune response against HPV-infected cells. A Phase I study showed that TA-CIN is tolerated and immunogenic. In a subsequent Phase II prime boost clinical trial, TA-CIN in combination with the TA-HPV vaccine proved safe and well-tolerated, and some clear clinical responses were demonstrated.

Contact: Dr Theo Balasas, tbalasas@CancerTechnology.com

MEDICAL DEVICE

Phased Array High Intensity Focused Ultrasound (HIFU) Technology

Investment or Collaboration

HIFU therapy utilises ultrasound energy to heat and destroy tumour tissue whilst leaving surrounding healthy tissue intact. Compared with other cancer treatments, HIFU application has the unique advantages of being non-invasive, capable of precise tumour targeting and is coupled with very few side effects. A phased array HIFU prototype is currently being developed, with the potential to treat significantly larger volumes of tissue than can be currently treated with existing HIFU technologies. This should result in dramatically reduced treatment times, and collateral damage making HIFU clinically and economically viable.

CRT is now seeking equity investment to move from successful *ex vivo* and *in vivo* studies to clinical proof-of-principle (and exit) over the next 24 months.

Contact: Dr Roisin NicAmhlaoibh, ronicamhlaoibh@CancerTechnology.com

DIAGNOSTICS

Integrin $\alpha v \beta 6$ Binding Peptide for Imaging or Tumour Targeting

Validation

A series of proprietary function-blocking peptides have been developed that show remarkable binding affinity and selectivity for the integrin $\alpha v \beta 6$, which is over-expressed in a range of tumours including more than 90% of oral squamous cell pancreatic and ovarian carcinomas and 40% of lung, colon and breast tumours. $\alpha v \beta 6$ plays an active role in tumour progression, with high expression being linked to poor prognosis in many tumour types. Preclinical *in vivo* studies demonstrate that radiolabelled versions of the peptides can successfully image breast and pancreatic xenografts in PET and Nano-SPECT modalities. Furthermore, the peptides can redirect both adenoviruses and scFvs to $\alpha v \beta 6$ -positive tumours, demonstrating their potential as therapeutic targeting agents. A patent family and know-how are available for exclusive licensing.

Contact: Dr Laura Fletcher, lfletcher@CancerTechnology.com

Licensing Opportunities

RKIP: A Marker of Colorectal Cancer Metastatic Potential

Validation

There is an urgent need to develop prognostic markers that can identify the 30-60% of Dukes B and C colorectal cancer patients that suffer tumour recurrence. Raf-1 kinase inhibitor protein (RKIP) has been identified as an independent marker of increased risk of tumour relapse. Survival data demonstrate that level of RKIP expression in primary CRC's is significantly and inversely associated with metastatic disease. Patent application, data and proprietary antibodies are available for collaborative development or licensing.

Contact: *Dr Phil Masterson, pmasterson@CancerTechnology.com*

Lamin A/C: A Prognostic Marker for Early Colorectal Cancer

Validation

Expression of the nuclear lamins A/C has been identified as an independent marker of increased risk of tumour relapse in colorectal cancer patients. Cox hazard ratio scoring of immunohistochemical data from >650 independent CRC tumour samples scoring indicates that patients expressing lamin A/C are twice as likely to suffer CRC-related death compared to patients lacking the biomarker. Kits based on prognostic biomarkers such as Lamin A/C aid the identification of the 30-60% of Dukes B & C colorectal cancer patients that suffer tumour recurrence and guide decisions on treatment strategy. A patent, proprietary monoclonal antibodies and data, are available for licensing.

Contact: *Dr Laura Fletcher, lfletcher@CancerTechnology.com*

MCM Proteins – Early Stage Diagnostic Cancer Biomarkers

Validation

MCM or minichromosome maintenance family proteins are essential for the initiation of DNA replication. Data is now available to demonstrate that antibodies against MCMs enable the ready identification of malignant and pre-malignant cells in a variety of samples, including cervical smears, anal smears, oral smears, sputum (for lung cancer), urine and stool samples. Diagnostic products based on antibodies targeting MCM proteins are currently being developed for cervical and bladder cancer with commercial partners. CRT are now looking for a commercial partner to develop MCM based diagnostic tests for other cancer indications. Granted patents (US, EP and JP) relating to the target antigen are available for licensing.

Contact: *Dr Adrian Ibrahim, aibrahim@CancerTechnology.com*

MCM Proteins – Diagnostic Markers for Lung Cancer

Validation

Over 1.3 million people worldwide are diagnosed with lung cancer each year. CRT's technology offers a rapid, high throughput and cost effective approach for the diagnosis of lung cancer based on MCM detection in sputum. A study of 597 patients has revealed that combining sputum MCM immunocytochemistry testing with chest X-ray provides improved first line diagnosis of lung cancer over using each test alone. The combined test has a specificity of 78%, with improved sensitivity (71%) and negative predictive value (NPV) (85%) over using each test alone. This simplified diagnostic approach has the potential to significantly decrease the number of patients requiring follow-on diagnostic testing and removes the requirement for a highly skilled cytopathologist at initial diagnosis. CRT is looking for a partner to develop a MCM sputum-based diagnostic test under a licence to granted patents on the target antigen and MCM specific antibodies.

Contact: *Dr Maria Makri, mmakri@CancerTechnology.com*

Single Nucleotide Polymorphisms that Predict Colorectal Cancer Risk

Discovery

A panel of SNPs was discovered through genome wide association studies (GWAS) designed to identify low penetrance genetic changes that may be indicative of an increased risk of colorectal cancer. This led to recent publications describing the identification of the first common genetic variants for CRC predisposition including at the HMPS/CRAC locus on 15q13 and the SMAD7 gene on 18q21. CRT holds a patent portfolio protecting these and a number of other SNPs that predict increased colorectal cancer risk. The portfolio is available for non-exclusive licensing. Development of risk-profiling tests based on these SNPs, and their application in improved population screening programmes may result in better screening for cancer in those most at risk.

Contact: *Dr Laura Fletcher, lfletcher@CancerTechnology.com*

Licensing Opportunities

SNAIL: A Prognostic Marker for Epithelial Cancers

Discovery

Expression of SNAIL has been associated with invasion, metastasis and poor clinical outcome in a range of epithelial cancers and may therefore be a useful biomarker for guiding therapeutic strategy and disease monitoring. An extensive body of literature provides evidence of the association of nuclear SNAIL staining with breast, ovarian, colon, prostate, thyroid, adrenocortical, squamous cell and hepatocarcinoma. A patent portfolio (including granted patents in US and Europe) and proprietary antibodies provide an opportunity to develop SNAIL as an independent prognostic marker for various indications and are available for licensing and/or collaborative development.

Contact: *Dr Ruth Nebauer, rnebauer@CancerTechnology.com*

Prostate Cancer Susceptibility Loci and SNPs

Discovery

Although there is a clear familial risk associated with prostate cancer only a few susceptibility genes have been identified so far. Genome Wide Association Studies (GWAS) have now been used in many diseases to identify disease related loci and when sufficiently powered such studies can also identify low penetrance disease associated genes and single nucleotide polymorphisms (SNPs). Diagnostics based on panels of such genes/polymorphisms may be able to identify high risk individuals for whom increased clinical monitoring may be justified. This technology is based on the identification of seven independently significant SNPs found to be associated with prostate cancer and a number of them are linked to genes that may play functional roles in prostate cancer. The seven SNPs are the subject of a recently filed patent application and are likely to be of value in evaluating prostate cancer risk.

Contact: *Dr Angus Lauder, alauder@CancerTechnology.com*

ENABLING TECHNOLOGY

Novel Marker of Early ES Cell Differentiation

ENABLING TECHNOLOGY

A novel cell surface marker that is able to determine both the pluripotency and early differentiation state of an ES cell population in a single, rapid, non-destructive assay. This marker is a valuable tool for a wide range of ES cell techniques. Well characterised monoclonal antibodies to mouse and human antigens are available.

Contact: *Dr Tanya Moore, tmoore@CancerTechnology.com*

Transposon Mediated Genomic DNA Integration

ENABLING TECHNOLOGY

Non-exclusive rights are available to a technology enabling the integration of DNA into host genomes across a variety of species, using transposons from the Tc1/Mariner family derived from *Drosophila* and *C. elegans*. Applications include gene therapy including stem cell research, gene tagging and genotype/phenotype analysis.

Contact: *Dr Ruth Nebauer, rnebauer@CancerTechnology.com*

CyMap: A Novel Imaging Device with Multiple Applications

ENABLING TECHNOLOGY

'CyMap' is a novel CCD-based lens-free imaging system with potential applications in automating a wide-range of live cell-based assays or diagnostic tests. The simple system utilises only low-cost components, is readily miniaturised and can be used inside a standard tissue culture incubator. Furthermore, the imaging modality has great potential for incorporation into lab-on-a-chip devices, integration with microfluidic platforms or use in point-of-care diagnostics. The device can be used to monitor a wide range of cellular assays including cell number, cell division, colony formation, wound healing and migration. A patent application covering the CyMap technology has been filed and exclusive multi-territory licenses are available to further develop and commercialise the technology in multiple fields.

Contact: *Dr Laura Fletcher, lfletcher@cancertechnology.com*

Licensing Opportunities

Transgenic Mice and Cell Lines

ENABLING TECHNOLOGY

CRT has a portfolio of transgenic mice encompassing conditional knock-ins and knock-outs and animal models, derived from these sources. Noteworthy examples include two independent psoriasis models, *BRCA1* and *BRCA2* breast cancer models and a metastatic breast cancer model. A portfolio of these cell lines is also available for licensing, including TR146, a cell line that represents a unique *in vitro* model of human buccal mucosa. Copies of the Transgenic Mice and Cell Lines catalogue are available online.

Contact: reagents@CancerTechnology.com

Cytochrome b₅ KO Mouse Model for Study of Drug Metabolism

ENABLING TECHNOLOGY

A mouse model has been developed, in which cytochrome b₅ has been knockout in the liver. The loss of cytochrome b₅ results in significant reduction of drug metabolism. This model is a valuable tool for the studying of cytochrome b₅ in metabolism and the evaluation of drug efficacy, bioavailability and toxicity *in vivo*. Liver cells extracted from the mice (hepatic microsomes) could also be isolated and used to test new drugs *in vitro*.

Contact: *Dr Sarah Molton*, smolton@cancertechnology.com

Cytochrome b₅ KO Mouse Model for Study of Steatosis

ENABLING TECHNOLOGY

A mouse model has been developed, in which cytochrome b₅ has been knockout in the liver. The loss of cytochrome b₅ results in significant reduction of the P450 metabolism and the development of hepatic vesicular steatosis. The model phenocopies the genesis and progression of non-alcoholic steatosis. This model is a valuable tool for the studying of the role of cytochrome b₅ in steatosis and the evaluation of new prophylactics or therapeutics for steatosis.

Contact: *Dr Sarah Molton*, smolton@cancertechnology.com

Endothelial Tissue-specific and Inducible Cre Transgenic Mice

ENABLING TECHNOLOGY

Inducible Cre transgenic strains expressing the Cre-ER(T2) gene switch under the control of VECAD or BMX promoters. These mice can be crossed with mice carrying LoXP-flanked genes of interest to generate temporally controlled tissue-specific deletions upon tamoxifen treatment. Tamoxifen treatment of the VECAD-Cre-ER(T2) embryos induces Cre activity in >90% of endothelial cells of all arteries, veins and in the lymphatic system. Tamoxifen treatment of adult mice induces Cre activity only in smaller vascular beds. These mice may be used for study of genes involved in vascular development and pathological angiogenesis in adult mice. Tamoxifen treatment of the BMX-Cre-ER(T2) mice induces Cre activity in arterial but not venous endothelial cells. These mice may be useful for study of genes involved in pathological arterial conditions, including atherosclerosis.

Contact: reagents@CancerTechnology.com

Antibody Catalogue

ENABLING TECHNOLOGY

CRT's antibody portfolio currently consists of over 450 antibodies. Hybridomas are available for licensing in the fields of research and *in vitro* diagnostics, and purified antibody is supplied for research purposes on a sales basis. Copies of the antibody catalogue are available both on request and online in a searchable format, providing a full technical profile of each antibody. www.CancerTechnology.com/antibodies.

Contact: reagents@CancerTechnology.com



Licensing Opportunities