

William Harvey Research Limited



Tailor made solutions for drug discovery™

WILLIAM HARVEY RESEARCH LIMITED

www.williamharvey.co.uk

Welcome to William Harvey Research[®] Limited

Tailor made solutions for drug discovery[™]

William Harvey Research Limited (WHRL) is internationally recognised as a leading provider of preclinical contract research for the Biotech and Pharmaceutical industry. Founded in 1990, we have been supplying a broad range of high quality studies for global pharma, specialising in models of cardiovascular and inflammatory diseases. Our aim is to offer a professional service to our clients; a major strength is the development of bespoke study design and advice, alongside high quality reporting and academic input.

The purpose of this brochure is to introduce our company, and outline the range of services we offer, showing how we act as a gateway to mutual research and collaborative partnerships. We hope that you find our brochure interesting and will contact us soon.



A handwritten signature in blue ink, appearing to read 'C. Thiemermann'.

Professor Christoph Thiemermann MD
PhD FBPharmacolS FRCP FMedSci



William Harvey Research Limited is located in central London, near Barbican Tube Station, at the boundary of the City of London so our offices and labs are easily accessible to national, European and overseas clients.

Company Vision

From preclinical contract research and bespoke study design, to long-term collaboration with strategic partners, WHRL provides a high, quality contract research service to global biotechnology and pharmaceutical companies.

Our experienced scientists offer:

- Excellent standards of research
- Bespoke study design
- Broad range of models and therapeutic areas
- Advice from world-leading academic experts
- Detailed and professional final reports.

WHRL is the trading company of the William Harvey Research Foundation (www.whrf.org.uk), a registered charity whose funds support research projects, new state-of-the-art equipment, or fellowship and training programmes.



The Board of Directors of WHRL



Board of Directors

■ Professor Chris Thiemermann FMedSci,
CEO

www.williamharvey.co.uk/company/chris.htm

■ Professor Rod J Flower FRS,
Deputy CEO

www.williamharvey.co.uk/company/rod.htm

■ Dr Chandan Alam

www.williamharvey.co.uk/company/chandan.htm

■ Professor Mauro Perretti

www.williamharvey.co.uk/company/mauro.htm

■ Professor Brendan J Whittle

www.williamharvey.co.uk/company/brendan.htm

■ Professor Magdi Yaqoob FRCP

www.williamharvey.co.uk/company/magdi.htm

Cell Based Assays

We provide several meaningful and sophisticated analyses using primary and immortalised cells to kick-start drug discovery programmes downstream of compound identification (i.e. after binding and high throughput screening protocols). It is imperative to ascertain whether new receptor ligands display agonistic or antagonistic activities; similarly, identification of cell targets can direct further development stages, influencing downstream pre-clinical *in vivo* experimentation.

Assays of cell activation span from signalling responses (MAPK, NF- κ B, AP1 and more) to cell specific readouts (e.g. adhesion molecule expression; reactive oxygen species generation; chemotaxis).

Examples of archetypal cells include, but are not limited to:

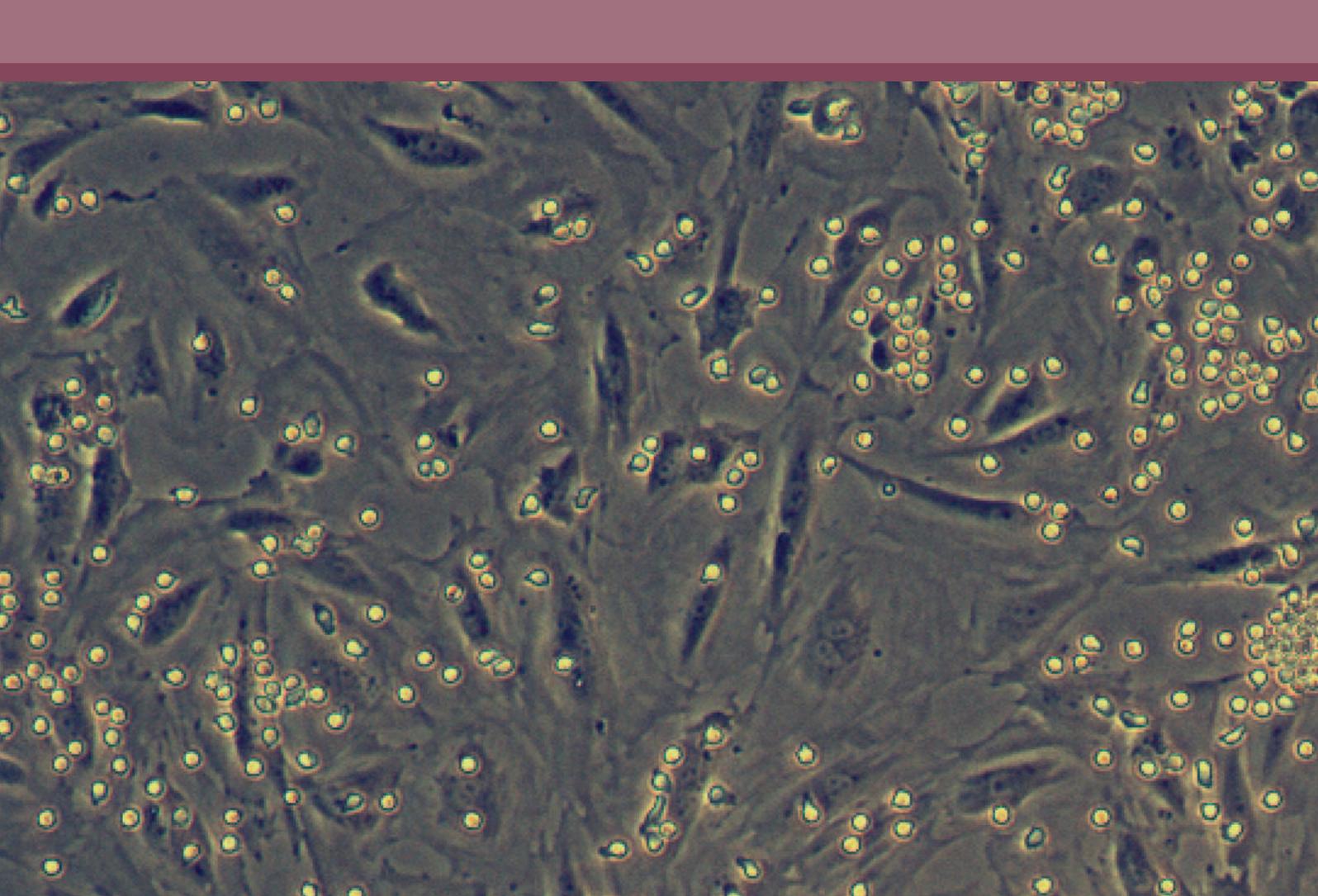
- Primary human leukocytes (e.g. neutrophils, T-cells)
- Endothelial cells
- Cell to cell interaction under flow
- Cardiomyocytes
- Platelets
- Mesangial cells
- Proximal tubule cells



Flow Chamber Lab: studying human cell interactions



Tissue culture methods



Three reasons why you should choose WHRL

- 1 Expert team of scientists based at the world renowned William Harvey Research Institute in London, with 20 years of experience in preclinical drug discovery – we have worked with more than 100 companies.
- 2 One of the broadest catalogues of disease models and techniques available covering therapeutic areas such as arthritis, myocardial infarction, diabetes, multiple sclerosis.
- 3 One-to-one discussions and advice on your preclinical testing needs, available directly from your Lead Scientist.

Models of Cardiovascular Disease

Early stage development of new cardiovascular therapeutics frequently necessitates the evaluation of drug efficacy in disease models. Establishing possible effects on multiple parameters of the cardiac and vascular responses has a catalytic impact on discovery programmes.

Our models span the analysis of tissue injury in the heart, the kidneys, as well as the liver. We draw on an extensive knowledge base, and a wide selection of protocols for models of Shock are in place.

As a succinct example, we offer models of:

- Acute myocardial infarction
- Stroke
- Models of acute and chronic kidney failure
- Organ Transplantation
- Shock and multiple organ failure
- Atherosclerosis
- Hypertension
- Diabetes

A full list of our models can be found on our website: www.williamharvey.co.uk



Sir John Vane, FRS

The William Harvey Research Institute was founded by the Nobel Laureate Sir John Vane, FRS in 1985. It was established at St. Bartholomew's Hospital with initial financial support from Glaxo Group Research. Pharmaceutical companies from Europe, USA and Japan have funded major research programmes. In 2000, the Institute became part of Barts and The London School of Medicine and Dentistry (within Queen Mary, University of London). Today, the William Harvey Research Institute has more than 280 researchers and is the largest pharmacological research institute in the UK with 65% of staff rated world-class or internationally leading in RAE (Research Assessment Exercise) 2008, focussing in the cardiovascular, inflammation and endocrine research areas.



William Harvey Research Limited CEOs

- Sir John Vane 1990-1996
- Professor Eric Angaard 1996-2000
- Professor Brendan J Whittle 2000-2003
- Professor Chris Thiemermann 2003-present

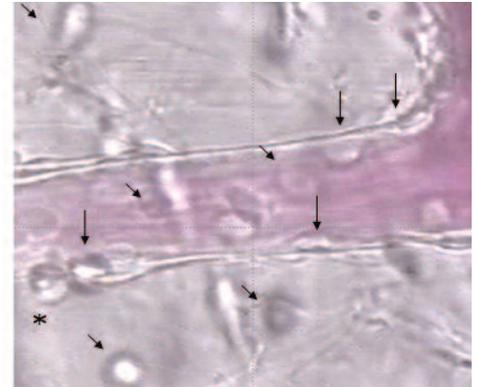
Models of Inflammation

The development of new anti-inflammatory therapeutics usually entails the assessment of drug efficacy in disease models. Determining the potential effects on multiple parameters of the inflammatory response offers clear benefits at early stages of discovery programmes.

We offer a vast series of validated models, as well as more sophisticated approaches to assess the anti-inflammatory potential of new candidates. Several transgenic models (many exclusive to us) are also available.

Examples include:

- Oedema
- Pleurisy and peritonitis
- Acute joint inflammation
- Intravital microscopy
- Skin oedema
- Thermal nociception
- Acute lung injury



Inflamed



Non Inflamed

Testing drug effects on inflammatory events in the microcirculation



Client Relationship

At WHRL, we understand our clients need for efficiency, reliability and quality. This is why we aim to achieve the highest standards of customer care. Furthermore, we pride ourselves on the fact that a large proportion of our clients come to work with us through word of mouth and many of those continue to value the quality of service we provide entrusting us with their studies time and time again.

Contract Research is often the stepping stone to fruitful, long-term collaborative relationships.

Proof-of-concept Disease Models

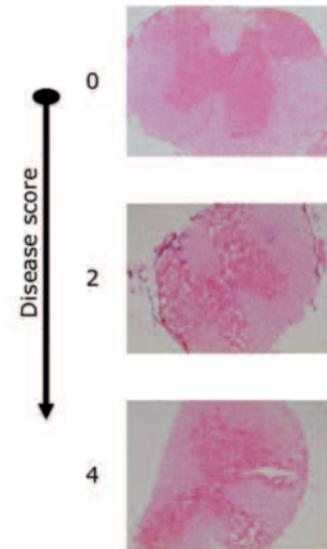
We have vast experience of helping clients select models of cardiovascular and inflammatory pathologies that deliver robust, proof-of-concept results. This has an impact on the definition of the human condition(s) to target with the client's product.

Similarly to the other protocols on offer, we rely on the experience of the Lead Scientist as well as their scientific reputation.

Modelling human pathologies to furnish proof-of-concept results is offered in the following areas:

- Arthritis
- Multiple sclerosis
- Colitis
- Chronic heart failure
- Chimaeric models
- Trauma - haemorrhage
- Metabolic syndrome and obesity

Please contact us for a full list or visit our website for more details.



Experimental Allergic Encephalomyelitis
Evidence of spinal cord damage associated
with increments in disease score

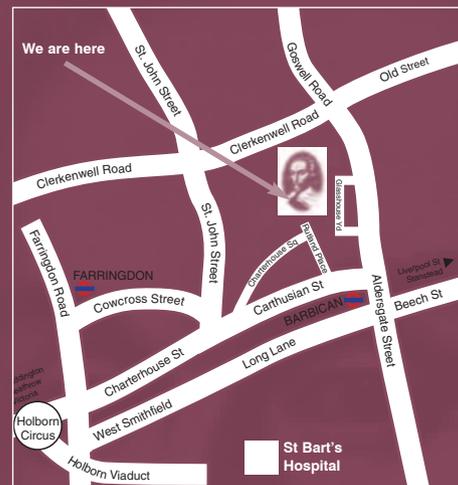
William Harvey Research[®] Limited

Tailor made solutions for drug discovery[™]

William Harvey Research Limited provides preclinical contract research services to Pharma and Biotech companies. Established in 1990, we have worked with over 100 biotech and pharma companies and continue to lead the way as a Preclinical Contract Research Organisation.

Our expert team of scientists based at the world-renowned William Harvey Research Institute (www.whri.qmul.ac.uk/) enable us to offer one of the broadest catalogues of disease models and techniques available.

For more information on our services please visit our website, www.williamharvey.co.uk which shows a full range of the models available. You can also speak to one of our experts about your specific requirements.



Ideally located close to Barbican and Farringdon Underground, we are easily accessible by international transport links such as St Pancras and London City airport as well as other main London airports.

Contact Us

William Harvey Research Limited
John Vane Science Centre
Charterhouse Square
London
EC1M 6BQ
UK

For General Enquiries:

Tel: +44 (0)20 7882 8809
Fax: +44 (0)20 7882 6016
Email: j.b.woodhead@qmul.ac.uk

For Contract Research Enquiries:

Tel: +44 (0)20 7882 8808
Fax: +44 (0)20 7882 6016
Email: whrl@qmul.ac.uk

Registered in England - Registration No. 2437946. Registered office: Charterhouse Square, London, EC1M 6BQ.