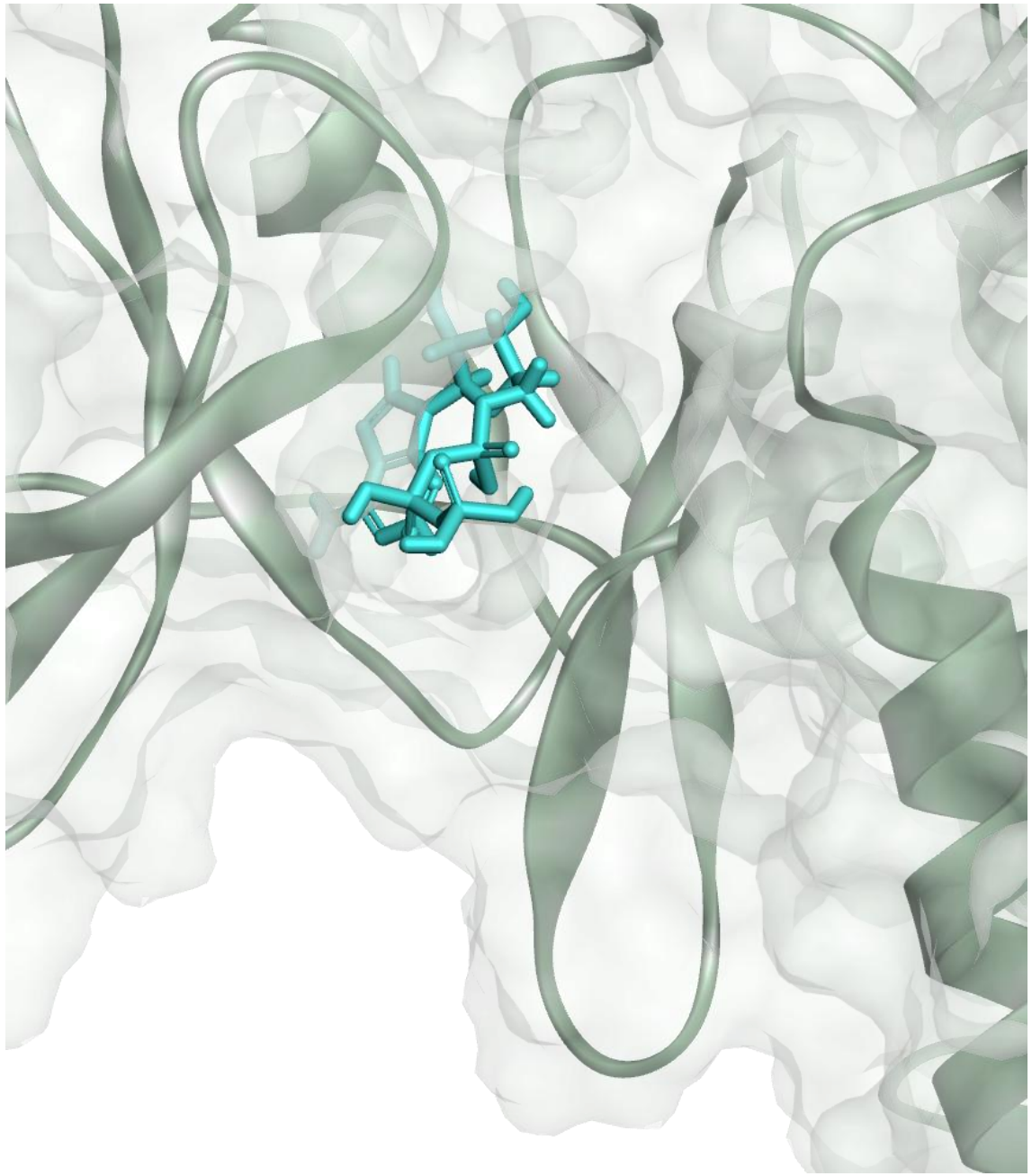


University of Strathclyde Glasgow

Targeting non-canonical NF-κB signalling through IKKα

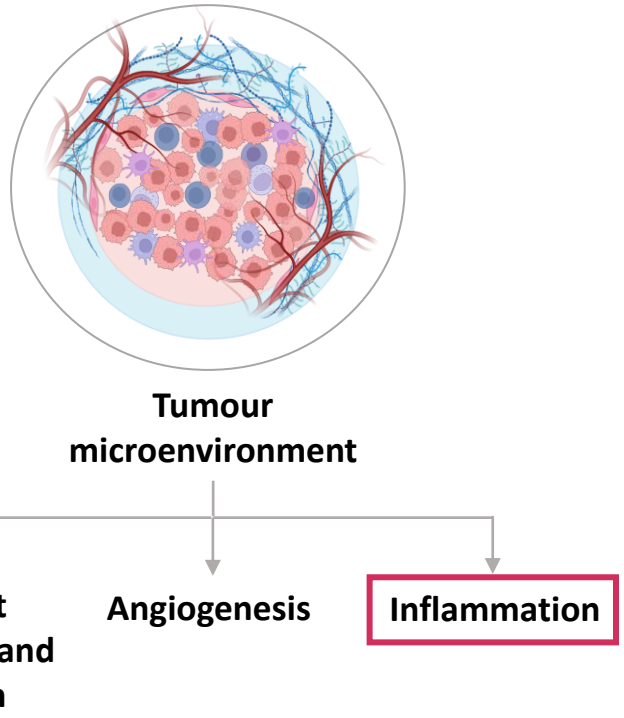
A new treatment paradigm for inflammatory-driven cancers

FURTHER FASTER TOGETHER
We are beating cancer

CANCER RESEARCH HORIZONS

CLINICAL NEED

Now accepted that the survival, growth and drug resistance of many cancers is driven by the synergistic relationship between the tumour and the microenvironment it grows in

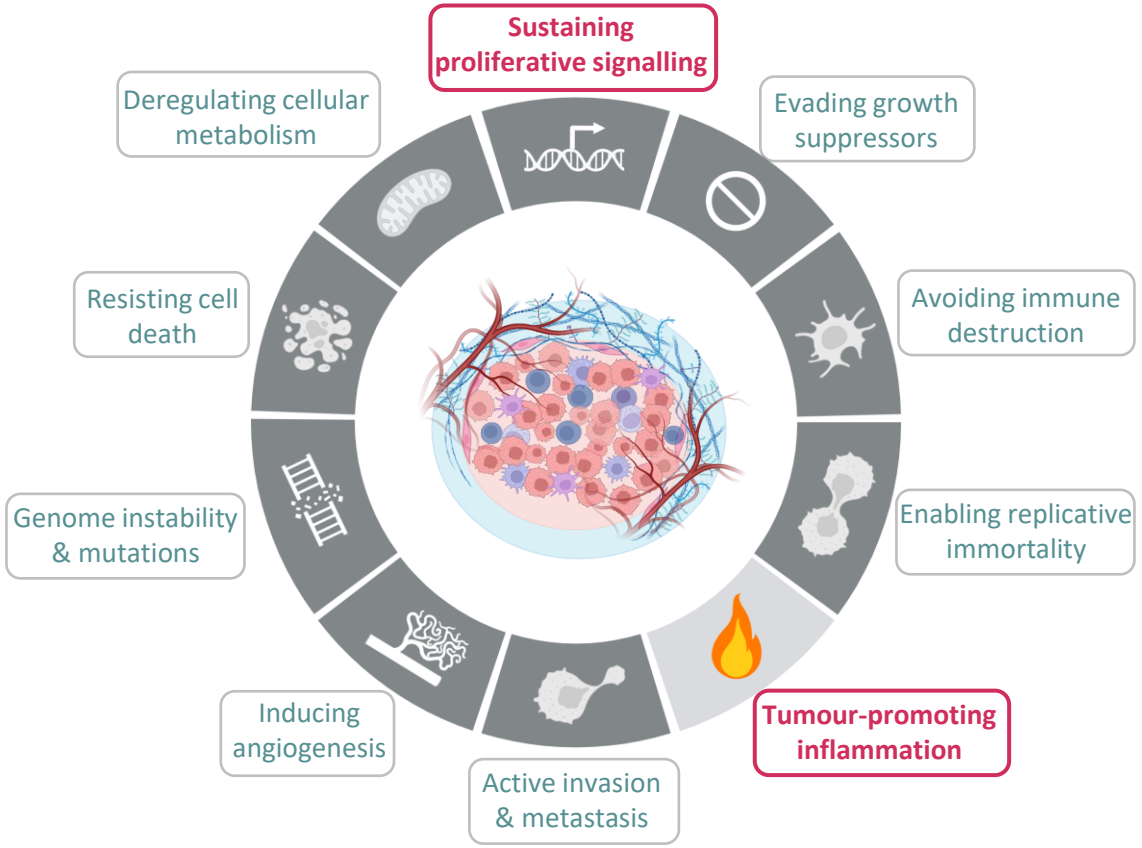


- Particularly in cancers where chronic irritation, infection or autoimmune inflammation plays a causal role in initiation, promotion or progression of the disease: **gastric, liver, cervical, colorectal, pancreatic, squamous cell, lung, mesothelioma, blader**

- **Inflammatory signalling** is also a major driver of **drug resistance** by reprogramming tumour cells and TME to survive therapy: **CRPC, TNBC, NSCLC**

OUR SOLUTION: TARGETING IKKα

IKKα is central to the relationship between tumour cells and their supporting microenvironment



IKKα inhibition simultaneously targets two tumour-promoting mechanisms

1. Attenuation of cancer cell intrinsic pathogenic pathways
2. Elimination of the numerous pathogenic inflammatory signalling inputs originating from the TME

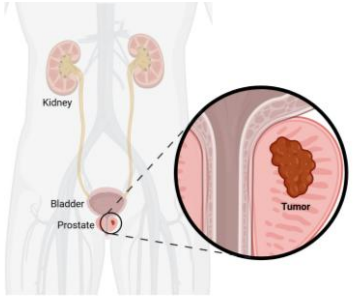
PRIMARY INDICATION SELECTION

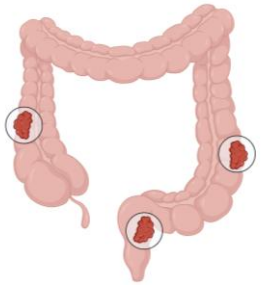
University of Strathclyde have been awarded funding, from CRUK, PCUK, CRH and MRC, to validate the novel treatment paradigm of targeting IKKα in two inflammatory driven cancers with unmet needs:

Prostate cancer, incl. Castrate-resistant prostate cancer **(CRPC)**

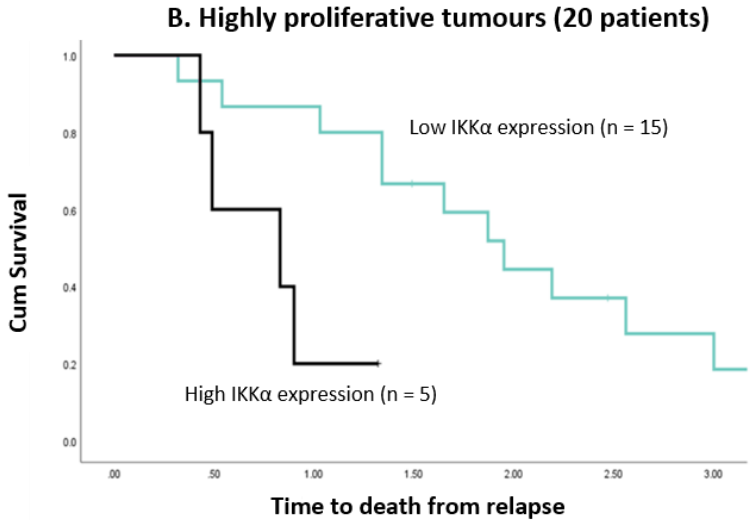
Colorectal cancer **(CRC)**

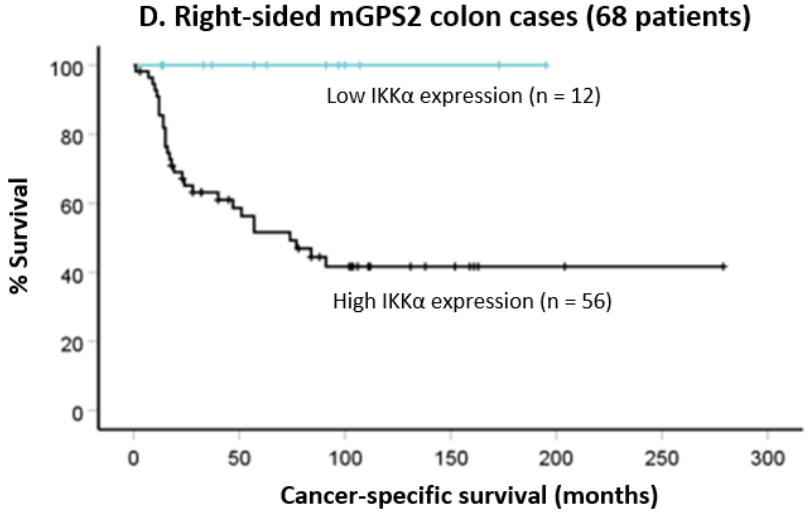
Associated with inflammation





High expression of cytoplasmic IKKα correlates with poor survival outcome

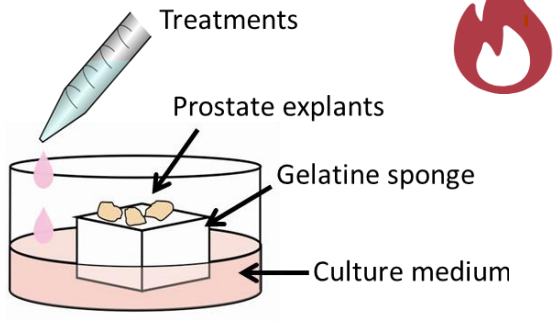


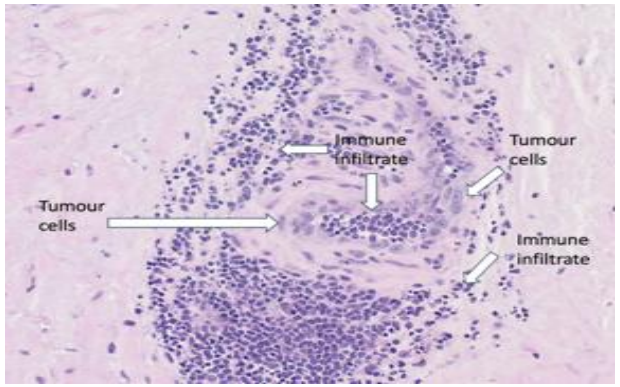


IKKα-INHIBITOR VS STANDARD OF CARE IN CRPC

Efficacy of SU1644 in PDE is reproducible and more potent than enzalutamide even in inflammation-driven SoC-resistant patients

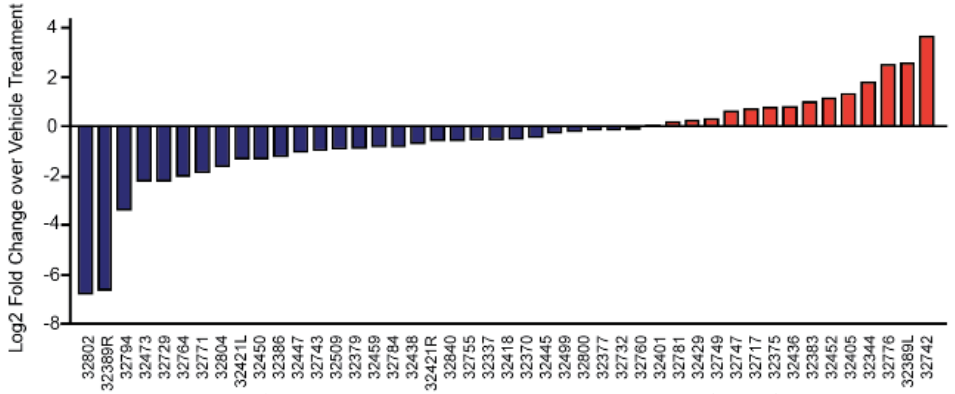
PDE model in PC





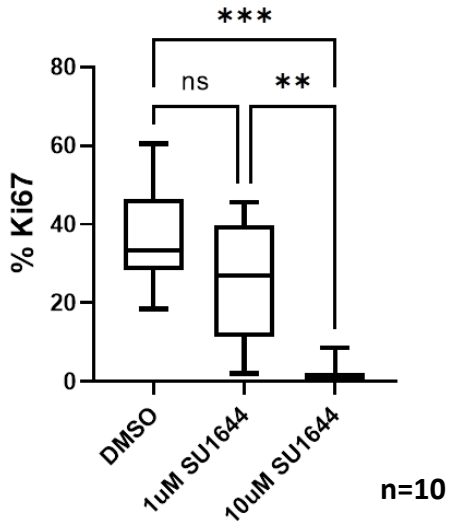
Explants retain viable immune infiltrate

Variable response to enzalutamide at 10 µM

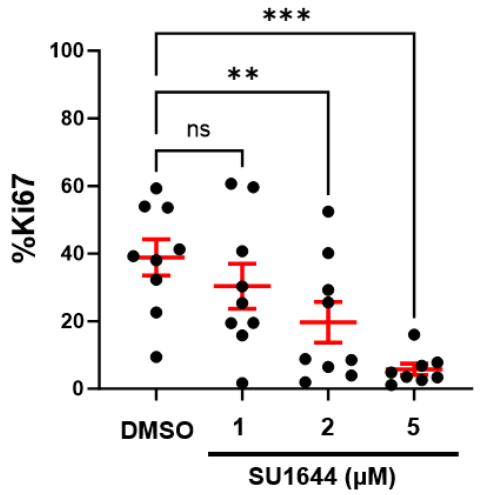


Proliferative response to enzalutamide (Ki67)

Potent and consistent response to SU1644 across 19 patients



n=10



n=9

IP: First-in-class series of distinct IKKα inhibitors

Three patent-protected series of IKKα inhibitors; (i) Highly potent and selective for IKKα>IKKβ, (ii) Possessing different chemotypes and kinome profiles and (iii) Clear competitive advantage and FTO as the only globally active IKKα programme

Series 1



SU1349

IC_{50} = 151 nM

SI IKKα/IKKβ > 198

WO2023218201A1 (Series 1)

Series 2



SU1644

IC_{50} = 246 nM

SI IKKα/IKKβ > 122

WO2024228035A1 (Series 2)

Series 1/2/3 Combo



IKKα inhibitor centric combination therapies in blood cancers

Composition of matter patents filed in 2023/2024: Now in national/regional phases (EU, US, JP, CH, AU, CA)
Combination priority filing underway.
IP owned by CRH

Series 3



SU1818

IC_{50} = 16 nM

SI IKKα/IKKβ > 1875

GB2611587.3 (Series 3)

Composition of matter patent
Application filed in May 2026
IP owned by Strathclyde

Strathclyde have the network to push the clinical development of our asset portfolio across different cancer indications and other inflammatory conditions

THE TEAM

IKKα Programme is led by a world-leading chemistry team at University of Strathclyde

In a collaborative consortium with internationally renowned leaders in disease biology and formulation.



IKKa Programme Lead

Prof. Simon MacKay
Expert in Medicinal Chemistry
(Strathclyde University)



Project Management Lead

Dr Eva Israel
Research Associate
(Strathclyde University)



CRPC Team

Prof. David Waugh
PC expert – in vivo models
(Adelaide University)





CRC Team

Prof. Owen Sansom
Director of CRUK SI – CRC in vivo models

Prof. Joanne Edwards
CRC Biomarker specialist
(Glasgow University)





Leukaemia and Lymphoma Team

Prof. Chris Pepper and Prof Andrea Pepper
CLL, AML, DLBCL Cancer Research, Clinical and Experimental Medicine
(University of Sussex)





Clinicians

Prof. Lisa Horvath
Chris O'Brien lifehouse research director – PC clinical trials expert

Prof. Richard Wilson
Professor of gastrointestinal oncology (Glasgow University/CRUK SI) – CRC clinical trials expert

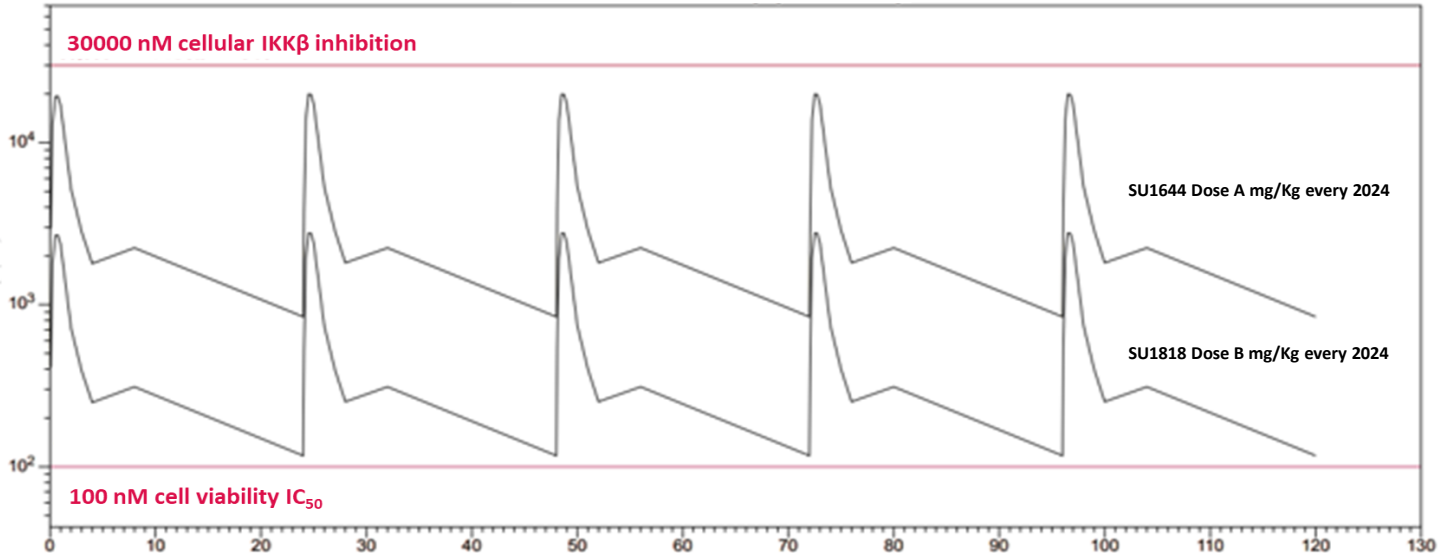


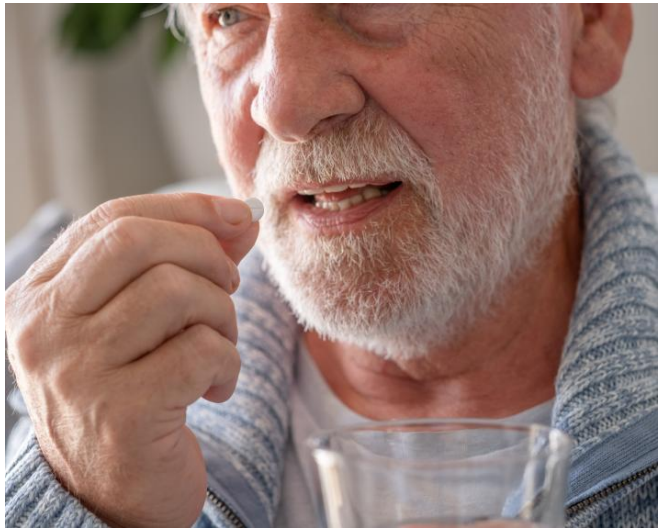
Formulation expert

Prof. Gavin Halbert
Director of CRUK formulation unit

DEVELOPMENT STATUS: FROM SU1644 to SU1818

SU1818 has properties that enable oral administration

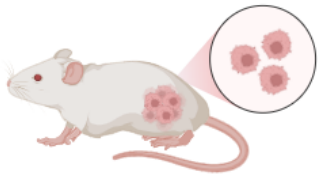




- Strathclyde have developed compounds which demonstrate extremely potent cellular and phenotypic outputs (Series 3, SU1818) in various 2D/3D models of CRPC and CRC and can be administered orally at lower doses once daily.

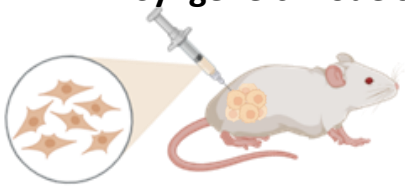
In vivo efficacy studies in CRC and CRPC mouse models have no commenced.

PDX models



Immunodeficient mouse

Syngeneic models



Immunocompetent mouse

IKKα knockout model

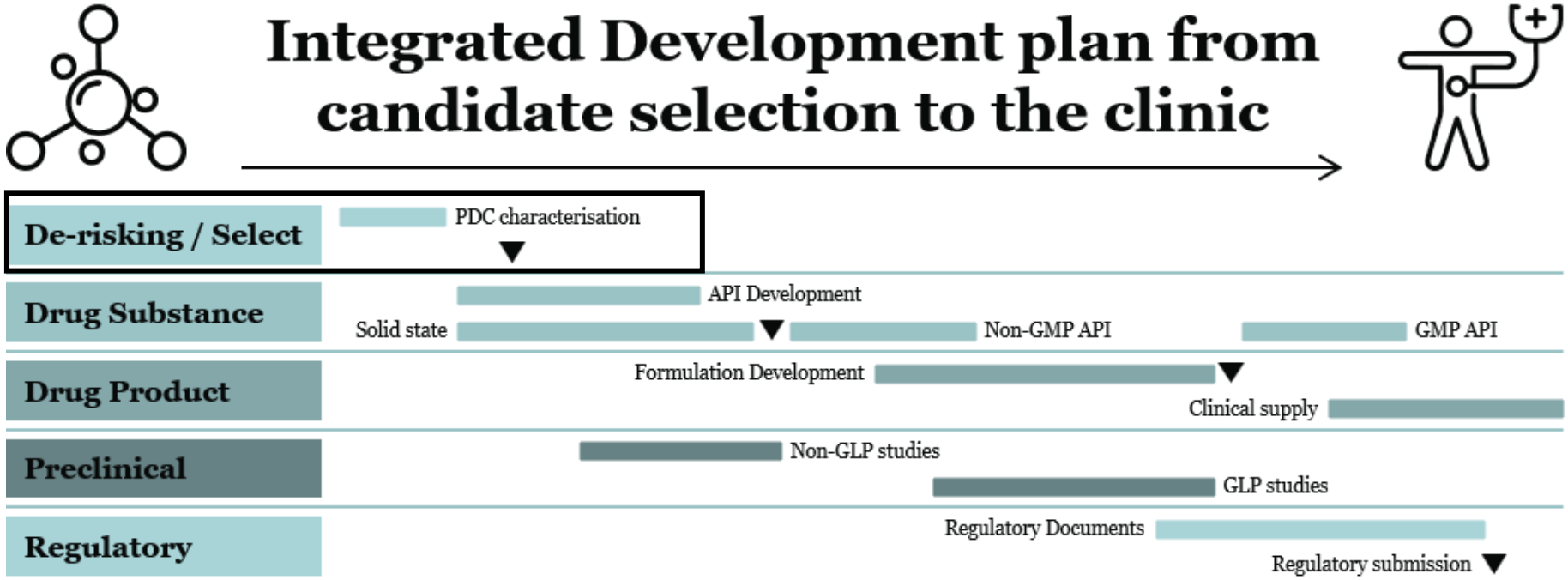


Immunocompetent mouse

NEXT STEPS

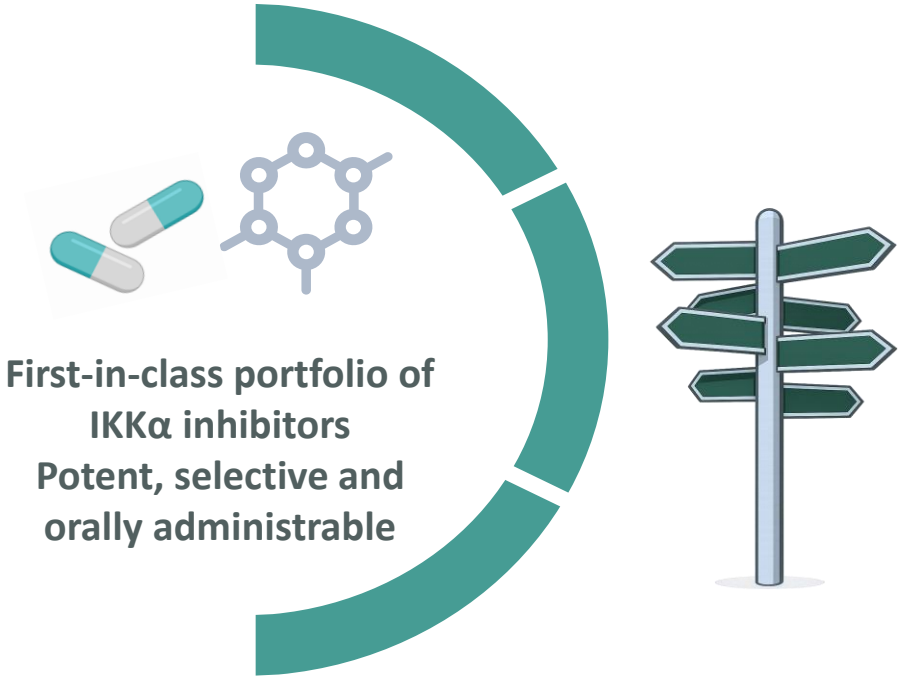
➢ Progressing our technology to the next stage:

- Finalising pre-clinical candidate selection from Series 2 and/or Series 3.
- Technology de-risking: Strathclyde have initiated discussions with drug development experts, commercial champions and clinicians to secure further investment to progress to bespoke FIH trial design in solid tumours and/or blood cancers.
- **CRH and Strathclyde TTO seek to co-commercialise the IP portfolio for out-licensing to biotech/pharma or a Strathclyde spin-out backed by venture-builders, VCs and/or angel investors.**



COMMERCIAL & MARKET POTENTIAL

First-in-class and only series of selective IKKα inhibitors



First-in-class portfolio of IKKα inhibitors
Potent, selective and orally administrable

Clinical indications	Market estimates (2026)	Market projections (2030)
Non-Small Cell Lung Cancer (NSCLC)	$46Bn	$71Bn
Inflammatory Bowel Disease (IBD)	$28Bn	$33Bn
Chronic Lymphocytic Leukemia (CLL)	$17Bn	$24Bn
Castrate-Resistant Prostate Cancer (CRPC)	$14Bn	$21Bn
Colorectal Cancer (CRC)	$14Bn	$18Bn
Bladder	$5.4Bn	$8.9Bn
B-cell lymphoma	$5.4Bn	$8Bn
Gastric	$4.2Bn	$7.3Bn
Pancreatic	$4Bn	$6Bn
Glioblastoma	$3Bn	$3.9Bn
Mesothelioma	$2.8Bn	$3.5Bn
Hepatocellular Carcinoma (HCC)	$2Bn	$9.8Bn
Triple Negative Breast Cancer (TNBC)	$1.2Bn	$1.5Bn

FIRST-IN-CLASS IKKα INHIBITORS → CLEAR COMPETITIVE ADVANTAGE

We are seeking partners for co-development or venture building – the full team is committed to spin out

CONTACT



Dr Britany Clarke

Business Development Manager, Therapeutics (CRH)
Britany.Clarke@cancer.org.uk

University of Strathclyde Glasgow

Cancer Research UK | Cancer Research Horizons | Prostate Cancer UK | UKRI Medical Research Council