

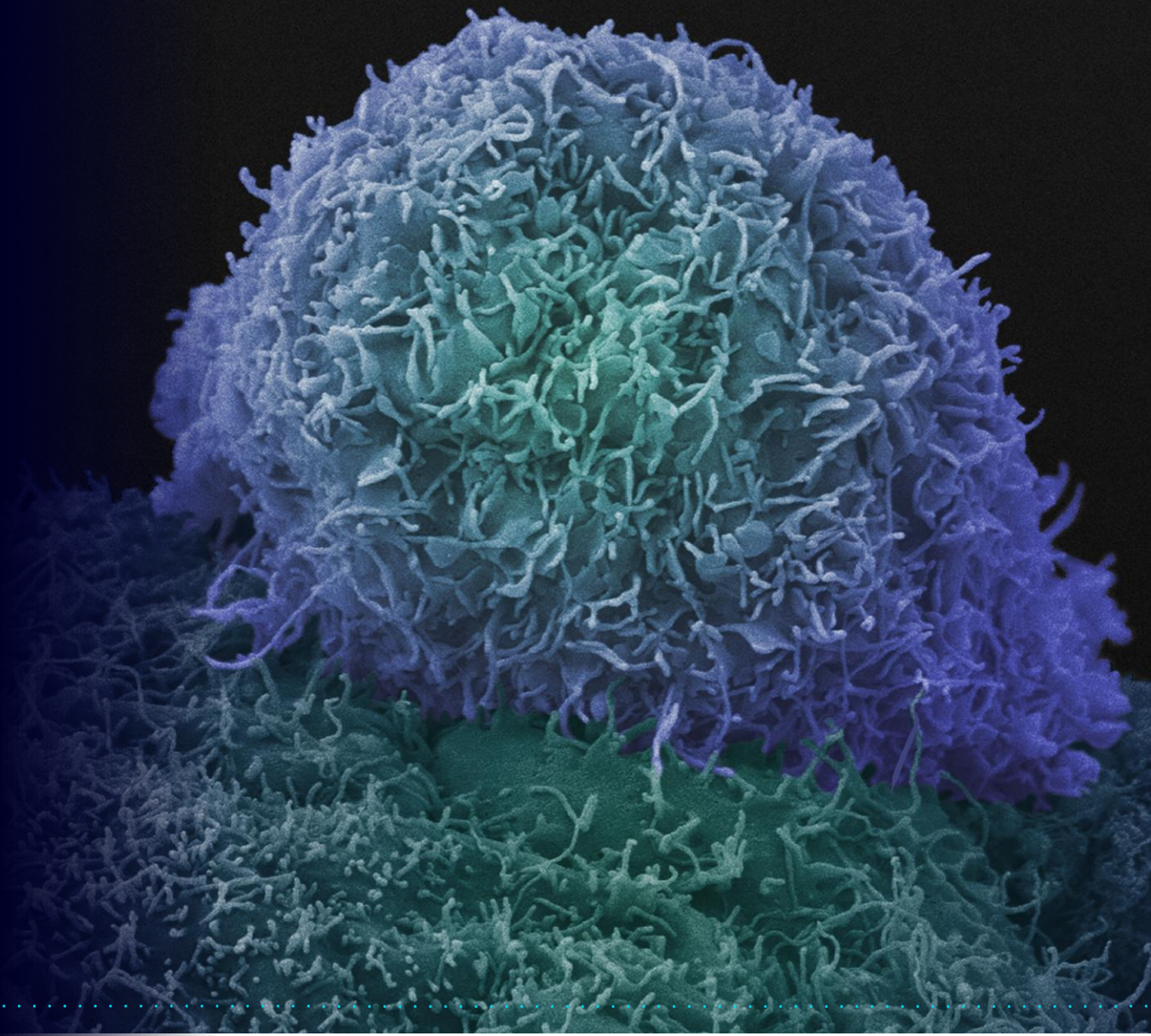
CANCER
RESEARCH
HORIZONS

FURTHER FASTER TOGETHER

CANCER RESEARCH HORIZONS

KDDF TECH FAIR 2023

KEEMIA AZVINE



AGENDA

1. About Cancer Research Horizons
2. Licensing principles and available technologies
3. Other partnership opportunities at Cancer Research Horizons

ABOUT US



Cancer Research Horizons is a wholly-owned subsidiary of the charity Cancer Research UK

We are the world's largest independent funder of cancer research and innovation.

In 2020/2021, our R&D spend was ~\$500m, across cancer biology to late phase clinical trials.

We have a network of over 4000 exceptional researchers, at 90 institutions across the UK.

Our UK-wide network of state-of-the-art facilities and infrastructure drives innovation across discovery, translational and clinical R&D.

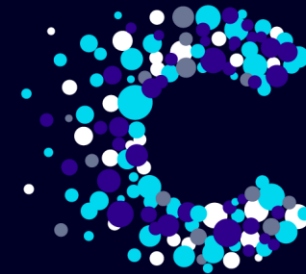
ABOUT US



We are a cancer-focused diagnostic and drug discovery, development and commercialisation organisation that fast-tracks scientific breakthroughs for patient benefit.

INNOVATION ENGINE

A powerful innovation engine, built to complement and realise the full potential of CRUK's network of exceptional investigators and cancer centres, and ~\$500M annual R&D spend.



CANCER
RESEARCH
HORIZONS

FURTHER FASTER TOGETHER

OUR IMPACT



11
marketed drugs



£2.8bn
raised by our spinout and start-up portfolio



£526M
revenue from royalties & IP



60+
spinouts & start-ups



6M+
courses of treatment for cancers through
drugs that we have directly helped to market



#2
largest oncology
out-licensor globally



160
new drugs into early-phase clinical trials



150
active licences

OUR PARTNERSHIP MODELS

Our Commercial Partnerships division builds partnerships with the biopharmaceutical industry under a variety of flexible models:

- **Intellectual property licensing** – we have exclusive rights to all intellectual property arising from Cancer Research UK-funded discoveries
- **Therapeutic Discovery Alliances** – we forge customised, multi-project alliances with industry and investors to support translation around themed areas of biology
- **Clinical Development Partnerships** – we offer biopharma companies resources, capabilities and expertise to develop new agents for cancer treatment
- **Startups** – we facilitate company creation where the advance of a potential treatment would be best served by being placed in a startup environment
- **Strategic R&D Initiatives** – we work with industry partners with complementary goals and expertise

OUR PARTNERS

We provide unparalleled access to CRUK's innovative science portfolio & are the gateway for partners to connect with our cancer expertise, R&D capabilities, & enabling infrastructure across the CRUK Network.

- LICENCES & COLLABORATIONS
- SPIN-OUT FORMATION & INVESTMENT
- THERAPEUTIC DISCOVERY ALLIANCES
- CLINICAL DEVELOPMENT PARTNERSHIPS
- STRATEGIC R&D INITIATIVES



SPOTLIGHT: INTERNATIONAL PARTNERSHIPS



We're partnering with the Karolinska Institutet, a world-leading medical university in Sweden, to enable the validation and translation of novel targets and mechanisms.



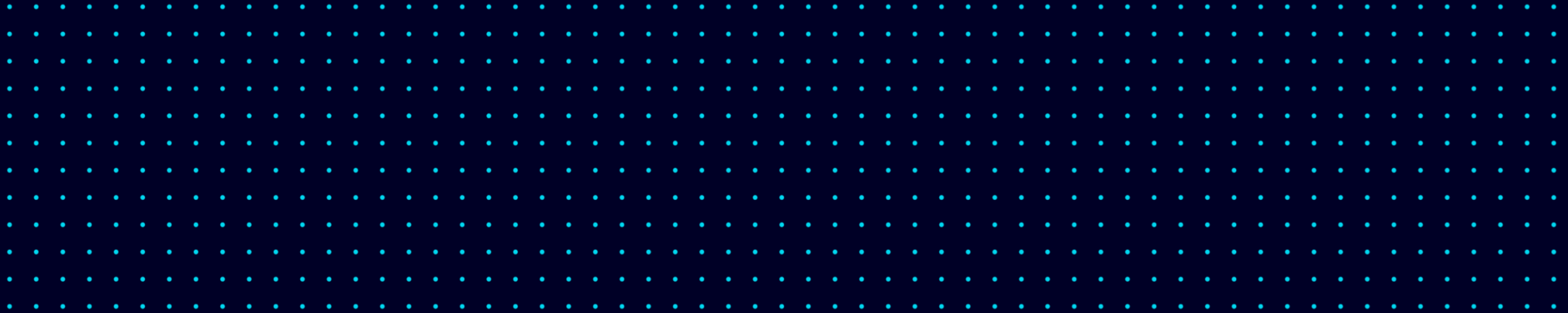
Our partnership with Singapore's Experimental Drug Development Centre, hosted by the Agency for Science, Technology and Research (A*STAR), reflects our commitment to international collaboration.



Under our strategic alliance with the Oncode Institute in the Netherlands we will focus on early-stage oncology to de-risk novel ideas and pursue relatively unexplored areas of cancer research.

LICENSES & COLLABORATIONS

with Cancer Research Horizons



LICENSING PRINCIPLES



OUR DRIVER

Our commercialisation priorities are focused on delivering maximum patient benefit



RESERVED RESEARCH RIGHTS

We reserve the right to practice licensed IP and publish research and information



IP DEVELOPMENT

We seek licensee commitment to the diligent development of licensed IP



EFFECTIVE PARTNERSHIPS

We identify and cultivate productive relationships with companies that share our values



FAIR FINANCIALS

We seek financial return to CRUK commensurate with development stage and value proposition to reinvest in cancer research



RISK MANAGEMENT

We mitigate our exposure to commercialisation risks associated with the development and sale of licensed IP

LICENSING OPPORTUNITIES

SMALL MOLECULES

IKK alpha inhibitor	LEAD OP, FIRST-IN-CLASS
CDC7 inhibitor	PRE-CANDIDATE
Glutaminase inhibitor	LEAD OP/ PRE-CANDIDATE; BEST IN CLASS
4th gen EGFR inhibitor	EARLY LEAD OP
ASNS inhibitor	HIT VALIDATION; FIRST-IN-CLASS
PARP inhibitor RADIOLABELLED	PROOF OF PRINCIPLE
LOX inhibitor	LEAD OP; FIRST-IN-CLASS
RAF & SRC inhibitor	PHASE 1; FIRST-IN-CLASS
PAN-RAS/KRAS inhibitor	HIT-TO-LEAD/LEAD OP; BEST IN CLASS

BIOLOGICS AND PLATFORM TECHNOLOGIES

ARG2 inhibitor	PRE-CANDIDATE, FIRST-IN-CLASS
CLEC14a antibody (ADC platform)	ANTIBODY OPTIMISATION; ADC PROOF OF PRINCIPLE
Apelin receptor inhibitor	LEAD OP
AVB6	<i>IN VIVO</i> IMAGING & THERAPY – MULTIPLE INDICATIONS
LMP2-targeting T cell receptor	<i>IN VIVO</i> PRECLINICAL EFFICACY
Kit-based Peptide Radiolabelling Platform	PROOF OF CONCEPT
Trimeric cell-penetrating peptides	PROOF OF PRINCIPLE

CDC7 INHIBITORS

We are seeking a licensing or collaboration partner

- Potent, selective and orally bioavailable CDC7 inhibitors
- Lead pre-candidate chemistry developed in-house at the CRH Therapeutic Innovation laboratories
- Demonstrated target engagement in vivo in tumour models
- Potent tumour inhibition in DLBCL and renal xenograft models
- Favourable PK
 - Predicted low human efficacious dose
- Strong IP position – CoM patents filed on chemical cores of interest in major markets
 - Granted in US, GB, DE, FR, IT
- Partnership with Turbine, a tech-enabled biotech leveraging its proprietary platform, to use an AI-powered simulation approach to determine which cancer types and patient populations are most likely to respond to treatment with lead candidate

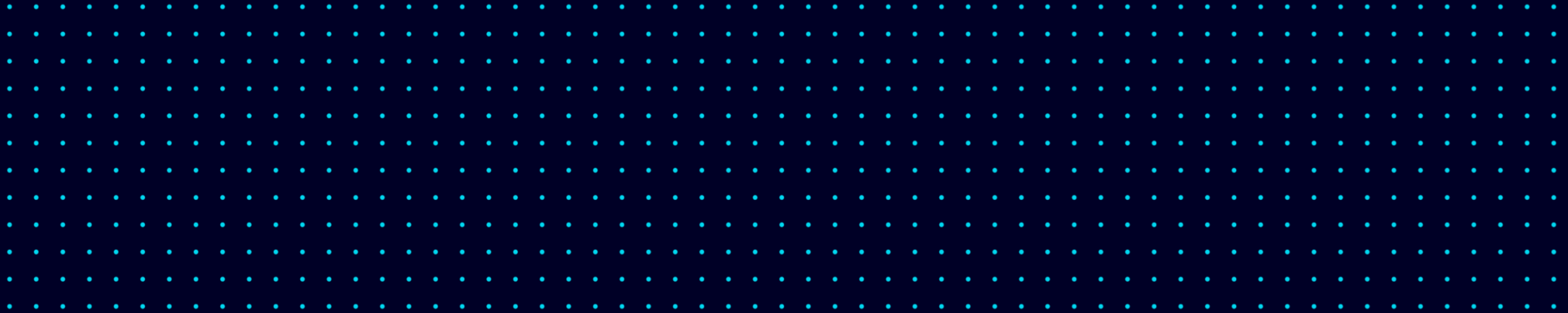
ANTIBODY-DRUG CONJUGATES TARGETING CLEC14A: THERAPIES FOR SOLID TUMOURS

We are seeking a licensing/collaboration partner

- Five antibodies selectively targeting CLEC14A have been generated. Two of them (CRT3 (C3) and CRT4 (C4)) were developed as antibody drug conjugates (ADCs) linked to SG3249, a pyrrolobenzodiazepine dimer-based DNA crosslinking agent.
- Whilst angiogenesis-targeting agents block tumour neo-angiogenesis, ADCs against CLEC14A disrupt already established tumour vasculature.
- ADCs show in vitro cytotoxicity in endothelial cells, and reduced tumour vascularisation in a murine model of Lewis lung carcinoma, correlating with reduced tumour burden.
- This work was developed in the lab of Professor Roy Bicknell at the Institute of Cardiovascular Sciences, University of Birmingham, and is protected by three granted or pending patents.
- Seeking a commercial partner for collaboration and/or licensing, to enable further clinical validation and commercialisation of the CLEC14A ADC programs.

THERAPEUTIC DISCOVERY

with Cancer Research Horizons



OUR APPROACH



EMBRACE NOVELTY

We work with researchers and industry to identify and advance novel therapeutic approaches underpinned by deep biological expertise.



EMBODY TEAM SCIENCE

We put collaboration at the centre of discovery by bringing together synergistic teams of world-class cancer researchers and clinicians.



PARTNER AT SCALE

We work with like-minded organisations to leverage novel capabilities and accelerate the delivery of first-in-class, breakthrough therapies.



LEVERAGE OUR NETWORK

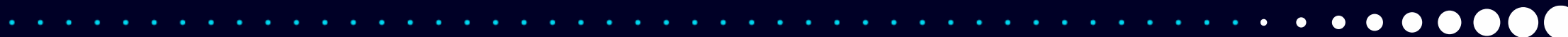
We have unparalleled access to world-leading cancer researchers and clinicians through Cancer Research UK's network.

OUR CAPABILITIES



We provide unparalleled access to CRUK's innovative science portfolio & are the gateway for partners to connect with our cancer expertise, R&D capabilities, & enabling infrastructure across the CRUK Network.

PROGRESS TOWARDS THE CLINIC



TARGET ID & VALIDATION

We align targets with a clearly defined clinical position as early as possible.

- ✓ CRISPR screening to identify novel targets.
- ✓ A world-class human immunology platform
- ✓ Cellular models, including organoids and patient-derived tissue explants

HIT DISCOVERY

We drive project progression from early hit identification through to detailed mechanism-of-action studies.

- ✓ Specific strengths in HTS and fragment-based drug discovery,
- ✓ Clear focus on profiling against the most physiologically-relevant endpoint possible.

HIT TO CANDIDATE

We use our experience in mechanistic pharmacology, medicinal chemistry, DMPK and in vivo cancer models to progress our projects towards efficacy studies.

- ✓ Computational chemistry
- ✓ Structural insights,
- ✓ Analysis of SAR biology
- ✓ drug-target kinetics
- ✓ synthetic chemistry
- ✓ ADME profiling

OUR PARTNERSHIP MODELS: CO-CREATION

We co-create themed drug discovery portfolios with industry partners in areas of innovative cancer biology where there's a compelling rationale for clinical relevance and patient selection.



INPUT

Our Network

In-depth biological expertise, novel targets, disease models and patient samples.

Our Capability & Expertise

200+ drug discovery scientists & leaders, access to KOLs & dedicated alliance management support.

Our Infrastructure

Four drug discovery sites set against a backdrop of nationwide translational infrastructure.

Your Resource

Upfront investment (R&D costs), research and development capabilities, pipeline candidates.



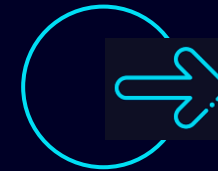
PARTNERSHIP

Industry discovery alliance

Partnership designed to harness complementary capabilities, expertise & infrastructure with the ambition to co-create a portfolio of first-in-class therapies that synergises with our partners' pipeline.

NewCo formation & incubation

Company creation & initial operationalisation undertaken by CRH to fast-track early-stage novel science into therapeutic innovations & attract onward investment to drive maximum patient benefit.



OUTPUT

Delivery of Novel Agents

Multi-project discovery portfolios, delivery of development candidates.

Internalise & Progress

Industry partner has option to internalize projects at predefined stage (candidate/Phase 1).

Fair return

CRH receives financial return (milestone, royalties) if projects are successfully developed.

Patient benefit

OUR PARTNERSHIP MODELS: RISK-SHARE

We progress **your pipeline assets** to their next-value inflection point on a risk-share basis to add value to your programs.



INPUT

Our Network

In-depth biological expertise, novel targets, disease models and patient samples.

Our Capability & Expertise

200+ drug discovery scientists & leaders, access to KOLs & dedicated alliance management support.

Our Infrastructure

Four drug discovery sites set against a backdrop of nationwide translational infrastructure.

Your Asset

You provide us rights to develop your asset from LI/LO to pre-defined endpoint (development candidate, clinical candidate, end of Phase 1/2).



PARTNERSHIP

Risk-Share Partnership

We develop your asset at our own risk through deployment of our network, capabilities and infrastructure to take your asset to next value inflection point.



OUTPUT

Value Added Development

Deep development of first-in-class & best-in-class assets by a world-class team.

Option & Progress

Originating partner has an option to licence IP at the end of the partnership and continue development of the asset.

Fair return

CRH receives financial return (milestone, royalties) if projects are successfully developed.

Patient benefit

OUR PARTNERS

We have established multiple long-lasting collaborations with industry partners to identify & advance novel targets.

14

major industry alliances

10

candidates
nominated

6

clinical starts
declared

ionctura



AstraZeneca 

LifeArc



 **forma**
THERAPEUTICS.

abcam

artios

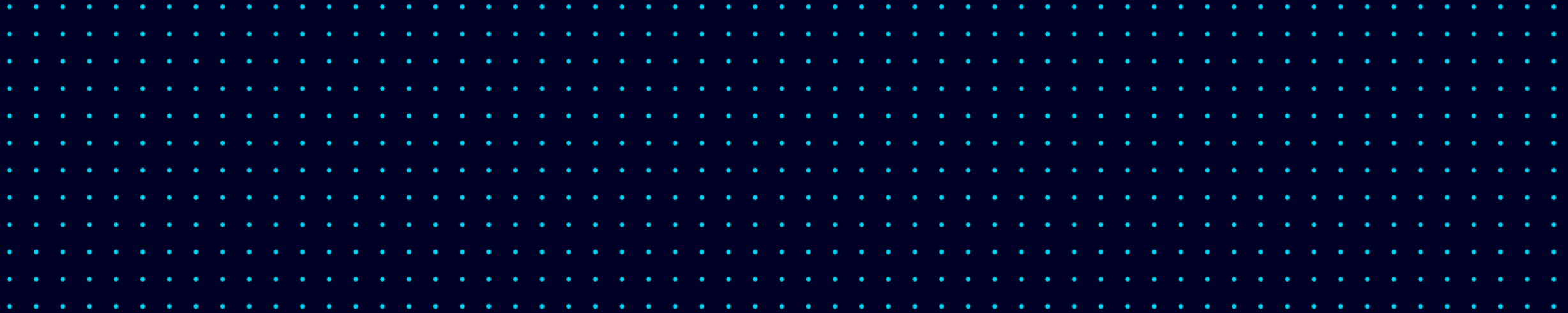
 **astex**[™]
pharmaceuticals

MERCK

 Bristol Myers Squibb[™]

CLINICAL DEVELOPMENT

with Cancer Research Horizons



OUR APPROACH



Our Centre for Drug Development partners with innovators in science and medicine to deliver more treatment options to cancer patients.



CENTRE OF EXCELLENCE

Our drug development capabilities & expertise, together with our network of investigators & infrastructure, allows us to demonstrate clinical potential



PARTNERSHIPS

We collaborate with industry partners under a shared risk reward model to provide a capital efficient route to progress the development of cancer therapies.



INNOVATION

We are motivated by delivering patient benefit, focusing on innovative, first-in-class agents and science-driven first-in-human trials.

OUR PARTNERING MODEL

We collaborate with leading industry partners to advance the clinical development of promising cancer therapeutics.

CLINICAL DEVELOPMENT PARTNERSHIP

We collaborate with our partner to design, setup & deliver a CRUK-sponsored clinical trial via our UK-wide network.

IP AND CLINICAL TRIAL DATA

Our partners retain their background IP & receive a licence to the clinical trial results & all collaboration IP.

SHARED RISK REWARDS

Our partnerships are undertaken on a shared risk reward basis offering capital efficient clinical development.

FUNDING AND FINANCIAL TERMS

We aim to recover a portion of our costs during the partnership & receive a fair share of future revenues if the agent is successful



30 PARTNERSHIPS TO DATE

11 (+3)
ACTIVE PARTNERSHIPS

8
ACTIVE LICENCES

PRECISION MEDICINE: DETERMINE



DETERMINE is a **multi-drug, precision medicine trial** for adults, teenagers and children with rare cancers.

First UK national precision medicine trial in rare cancers, testing a range of therapies targeting key genetic changes in cancer cells, sponsored and managed by the CRUK Centre for Drug Development (CDD).

Sponsored and managed by the CDD, in partnership with University of Manchester and Roche as founding commercial partner.

Aims to evaluate the efficacy of **licensed targeted** therapies in rare adult cancers, paediatric and teenage and young adult (TYA) tumours with **actionable genomic** alterations outside of their licensed indication and identify genomic and immune contextual influences on response to therapy.

Will establish a structured joint adult/paediatric UK framework for **collection of robust clinical outcome data** linked with a transformative translational research platform for patients treated with targeted therapies outside of their **licensed indication**

Will **directly translate positive findings to the NHS (Cancer Drugs Fund)** to provide new approved treatment options for patients with rare malignancies

WE ARE SEEKING ADDITIONAL LICENSED TARGETED DRUGS AND WELCOME ENQUIRIES ABOUT BEING INCLUDED IN THE TRIAL.

SUMMARY – PARTNER WITH US

1. **Licensing opportunities** across modalities, development stage and indication
2. **Therapeutic discovery**
 - Work on a themed area of cancer biology
 - Develop and de-risk early-stage assets in your portfolio
3. **Clinical development**
 - Develop your drugs in the United Kingdom with Cancer Research Horizons sponsoring and designing trials within our world-class network of clinical centres
4. **Other ideas** – we are open to your ideas on how we could partner

THANK YOU!

Get in touch: Keemia.Azvine@cancer.org.uk

