

Antibodies to activate our immune system against cancer

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Innovate UK



Charter for women in science
Recognising commitment to advancing
women's careers in STEMM academia



National Institute for
Health Research

Biomedical Research Centre
Guy's & St Thomas' NHS Foundation Trust and King's College London



1991

BA, MS Biochemistry
Protein Structure

PhD
B cell Immunology
IgE-IgE FcR Interactions

1995

King's College London &
SmithKline Beecham/GSK



Royal Free
Hospital / UCL

1995-2001



King's College
London

Postdoctoral Associate
Scientific Investigator
Antibody functions – Immunology -
Immunotherapy for Melanoma

GSK Spinout
Adprotech
Ltd
Cambridge

2002



Postdoctoral Fellow
IgE Cancer Immunotherapy

2003

King's College London



National Institute for
Health Research



2007

NIHR/BRC Fellow

Senior Lecturer
in Translational Cancer
Immunology

2013

CRUK partnership

2016

Reader
in Translational Cancer
Immunology

Clinical trial

2019

Professor
of Translational Cancer
Immunology &
Immunotherapy

Spin-out company

Several characteristics can distinguish cancer cells from healthy cells

Grow without control

Unstable and damaged DNA

Do not self-destruct

Can divide uncontrollably

Alter use of energy

Continue to evolve and adapt

Promote inflammation

Grow new blood vessels

Invade different tissues

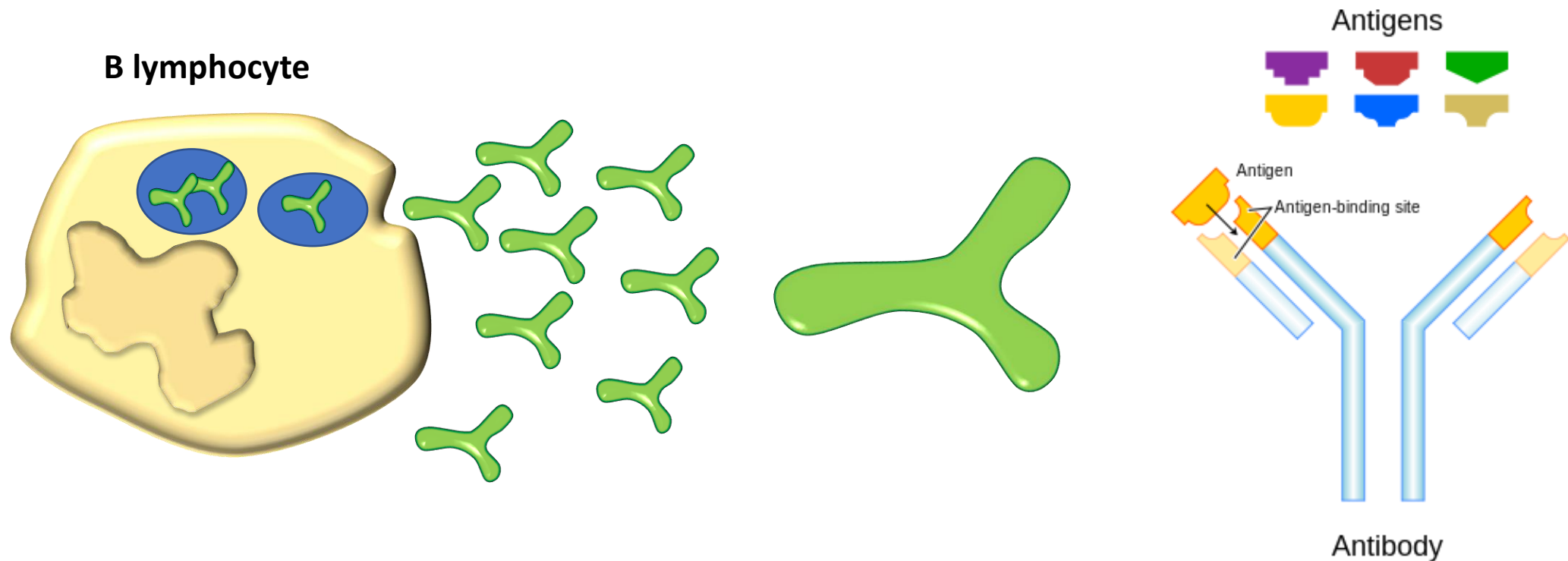
Avoid destruction by the immune system

B cells in the human body produce antibodies

The immune system recognises external attack

When our immune system responds B cells produce antibodies

Antibodies can selectively target specific molecules on invading pathogens



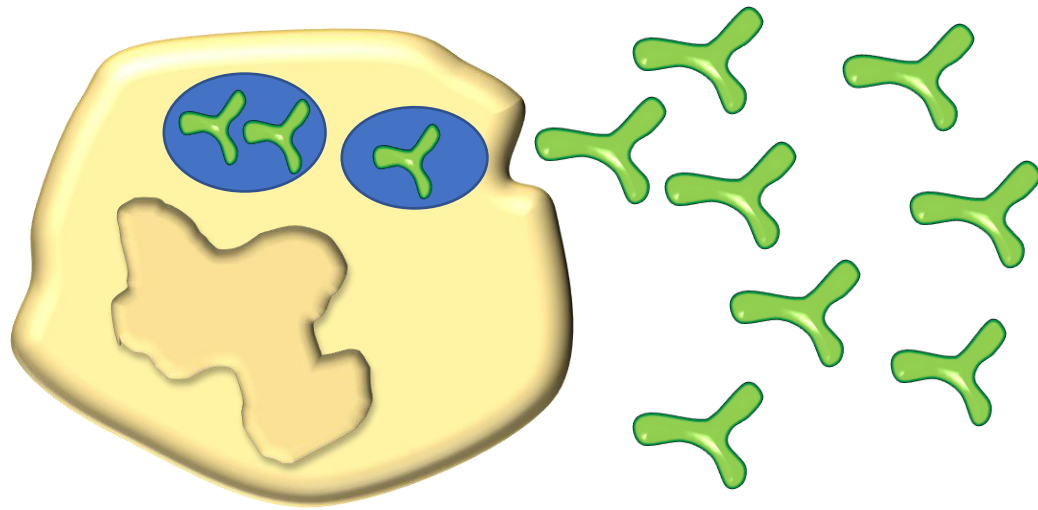
Harnessing the immune response to treat cancers like melanoma?

The immune system recognises cancer cells

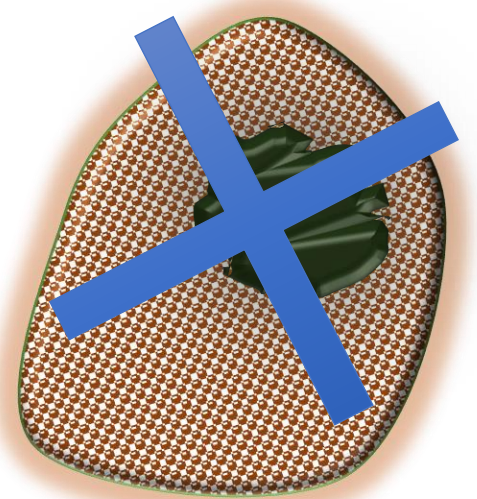
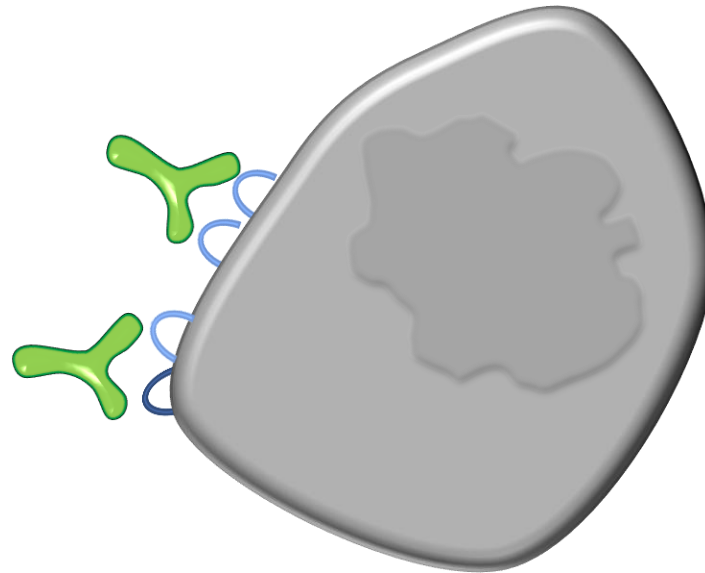
When our immune system responds, patients do better!

Antibodies can selectively target cancer cells

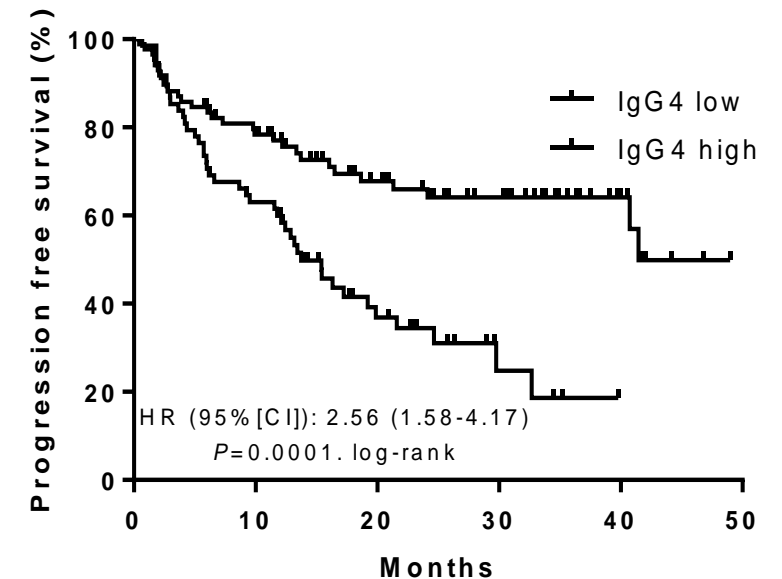
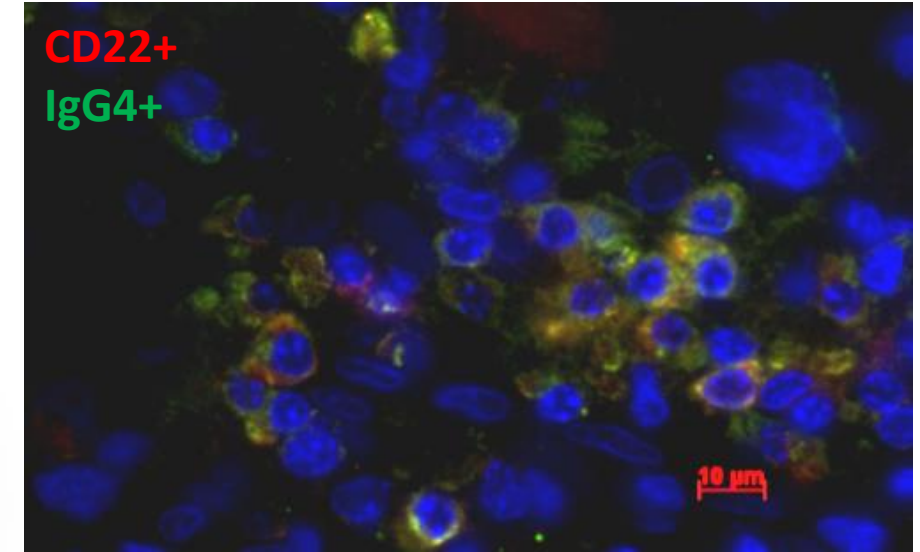
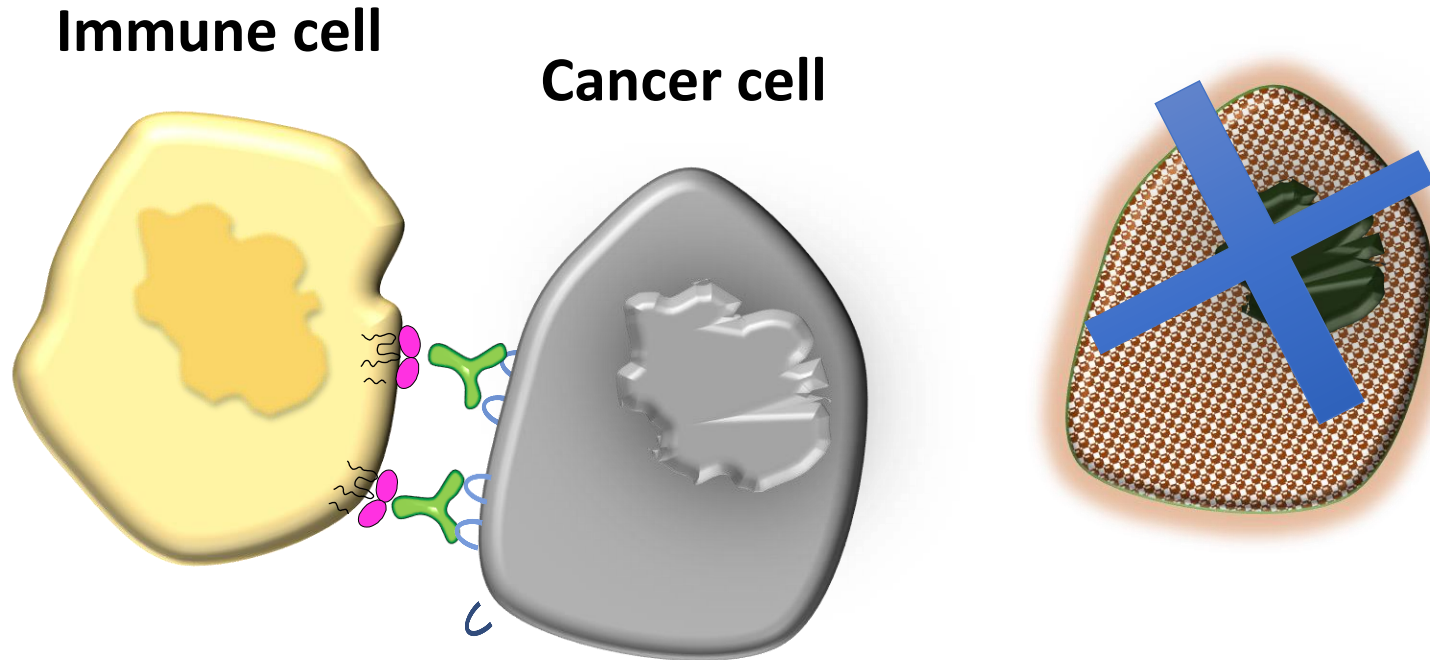
B lymphocyte



Cancer cell



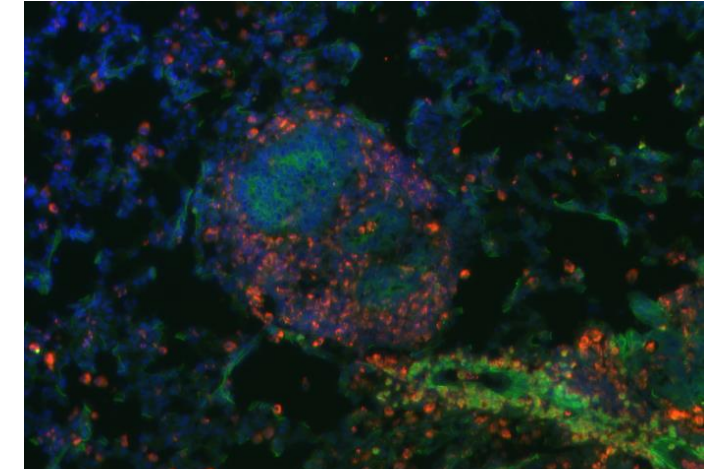
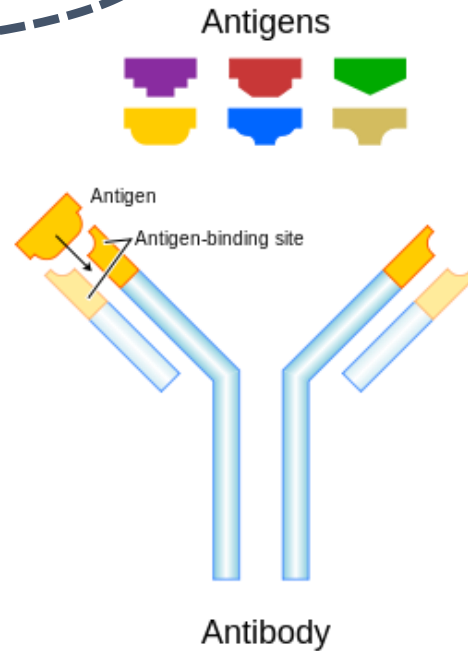
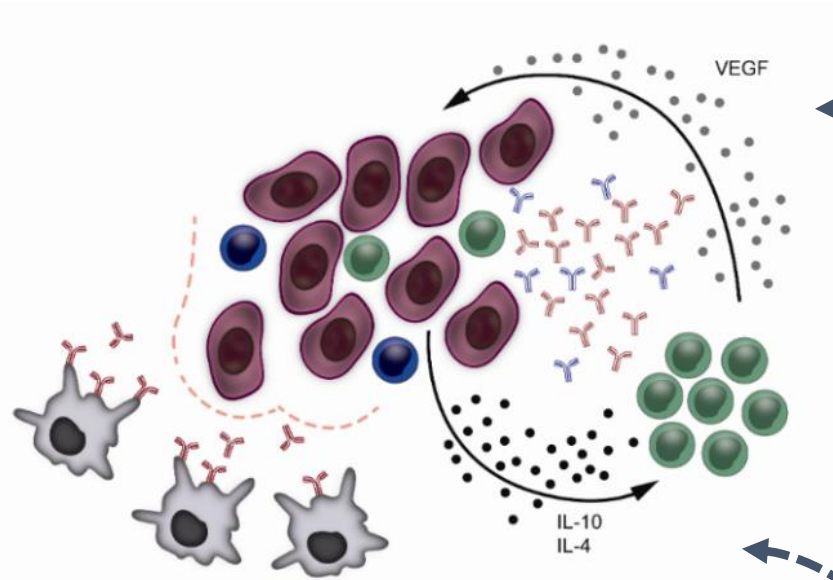
Antibodies can activate immune cells to kill cancer cells: but not all antibody types are effective



Our cancer immunology & antibody immunotherapy group

Dissecting patient immune cells
Biomarkers

Engineering antibodies & harnessing their power
to wake up the patient's immune response



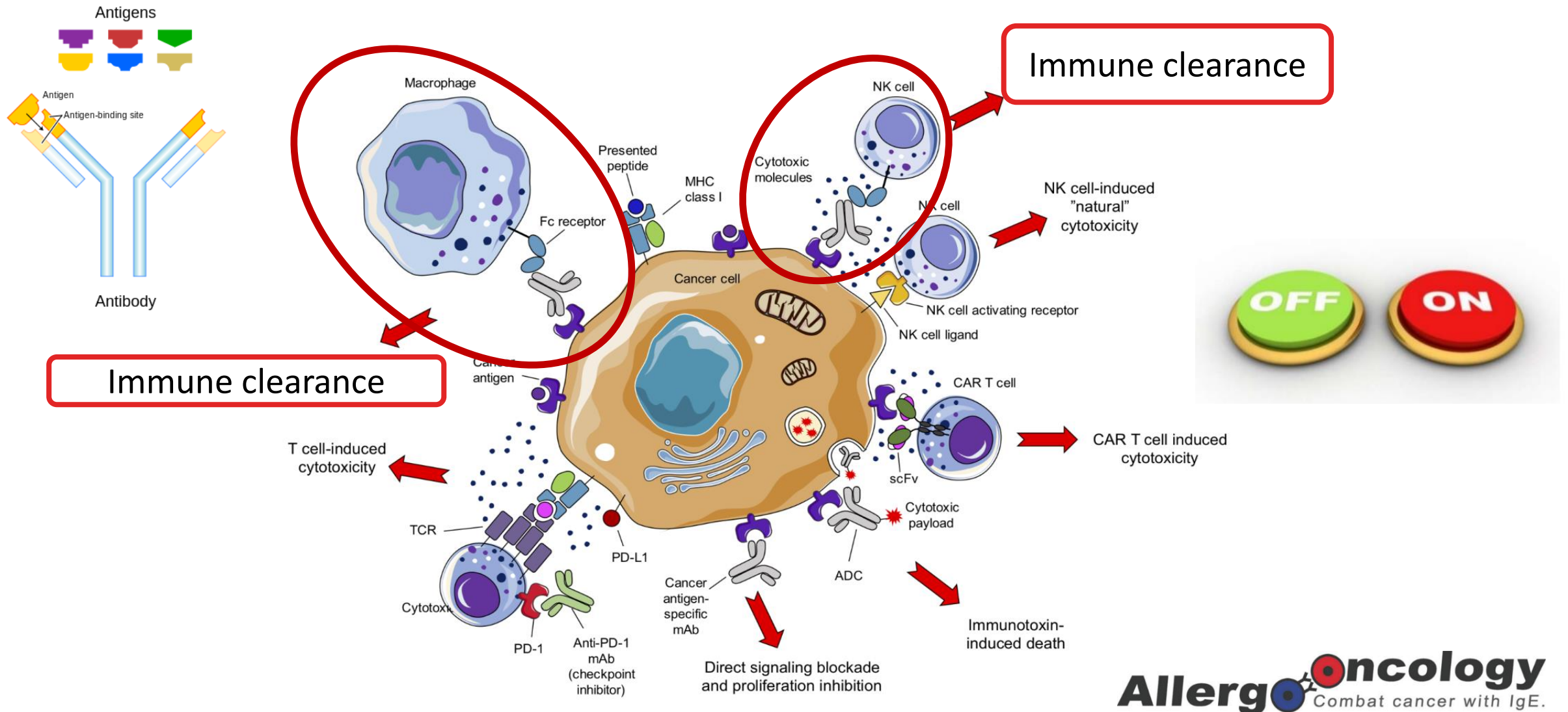
εpsilogen

IGEM
Therapeutics

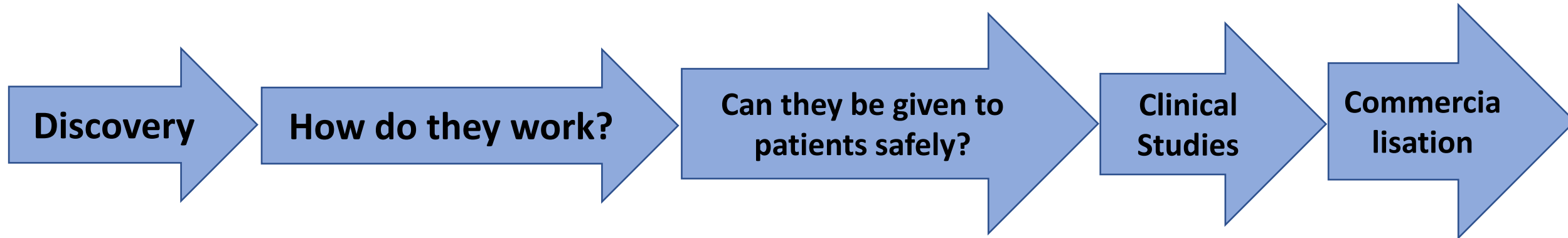
Innovation: KCL-based
Immuno-Oncology Spinout

Translation to the clinic: Development &
First-in-class mAb Clinical Trial

Harnessing the power of antibodies for cancer treatment



Our Team: Antibodies from Discovery to Clinical Trials



Thank you!

