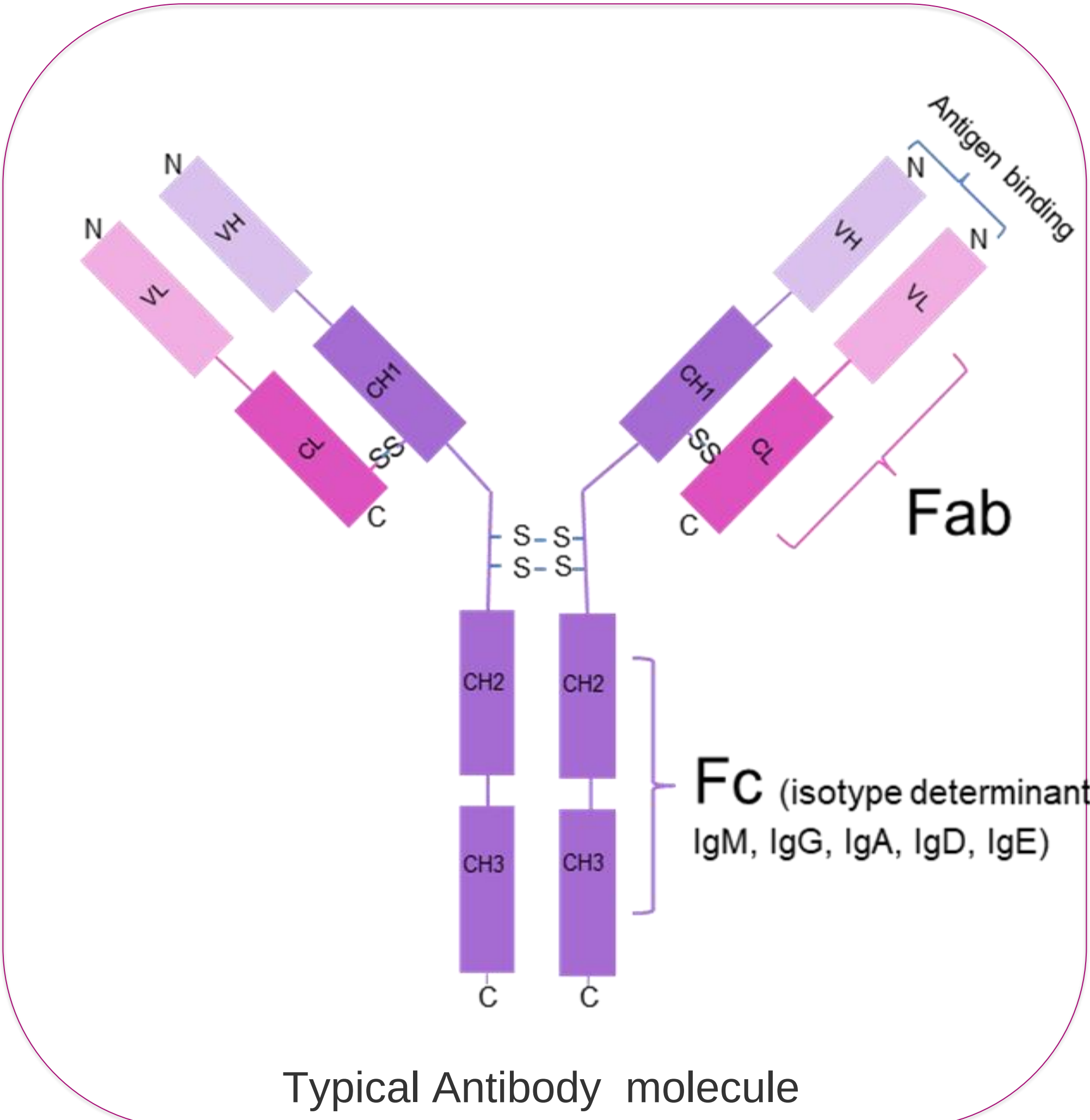
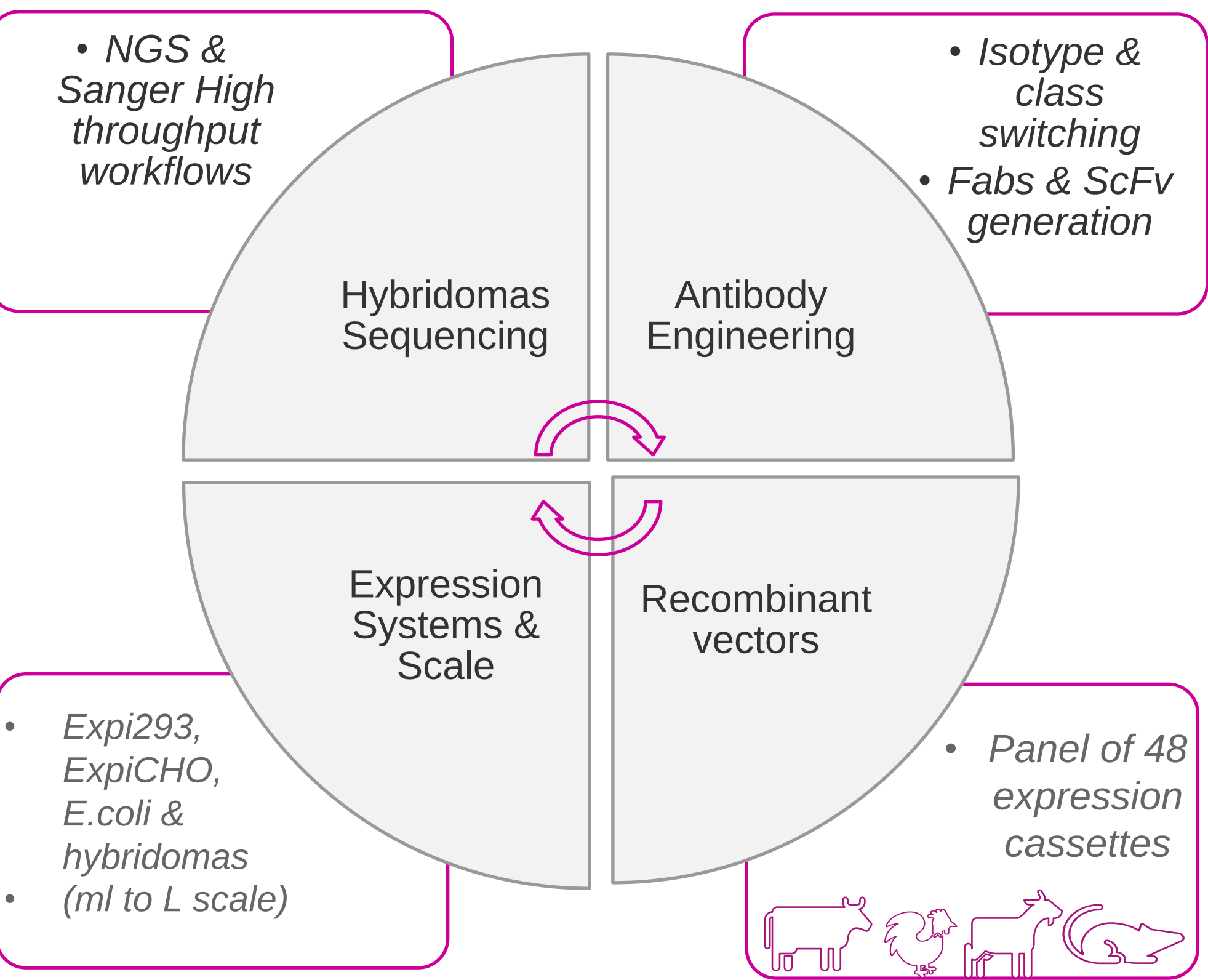




The Pirbright Immunological Toolbox: Advancing veterinary immunology & vaccinology research

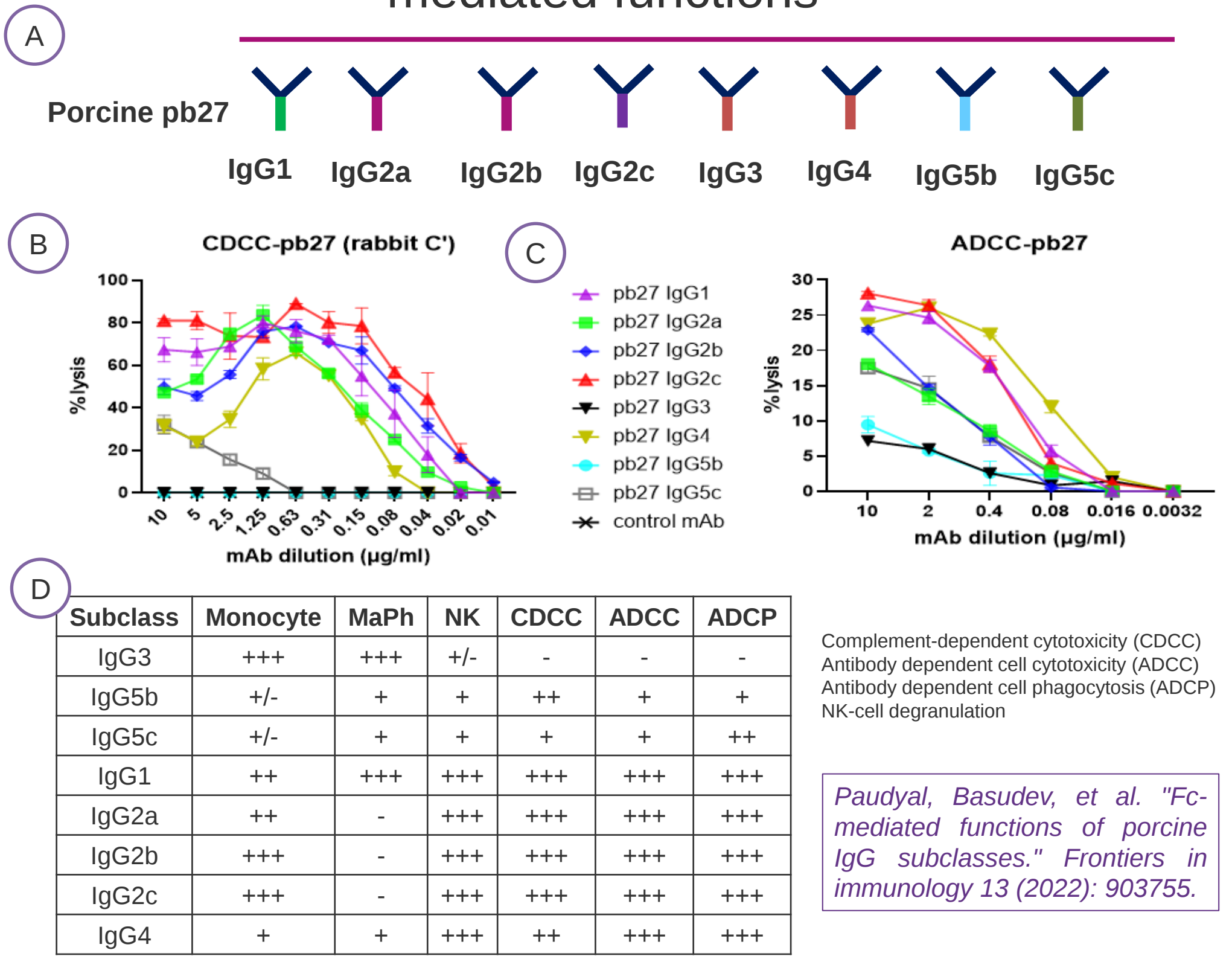
Danish Munir, Elena Lokhman, Sylvia Crossley, Kevan Hason, Jayne C. Hope, and John A. Hammond

Antibody technology capability



Develop novel/versatile reagents

Switched swine influenza (pH1N109) specific pb27 mAb into different pig IgG subclasses to determine Fc-mediated functions



A) pb27 IgG subclasses schematics, B) Fc effector function of pb27 pig IgG subclasses in CDCC and C) ADCC assays, D) table of summary of Fc binding to immune cells and effector functions

Toolbox hybridoma sequencing project

Securing unique antibody collections globally

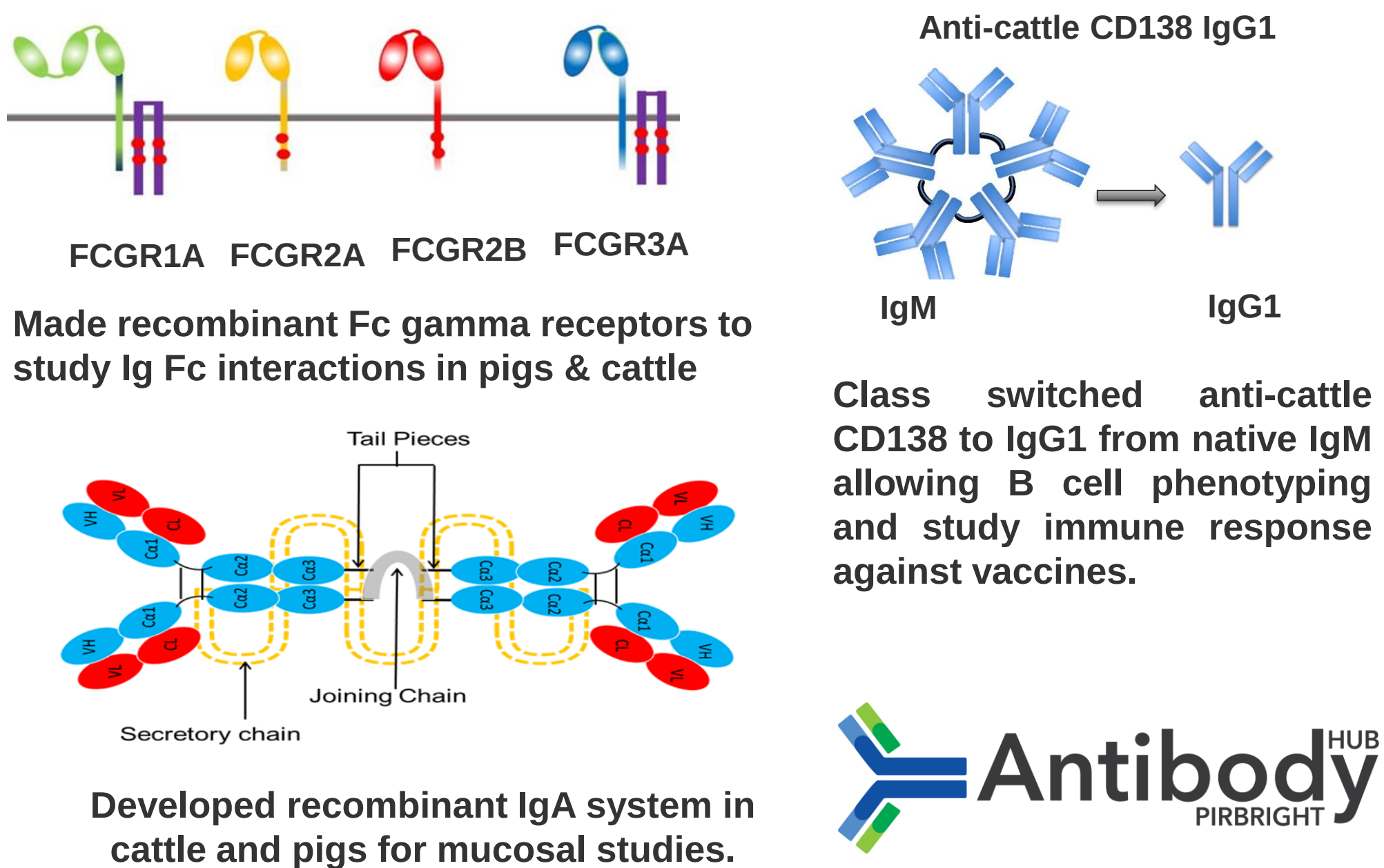
- >700 hybridomas sequenced
- Reducing cost of liquid nitrogen storage
- Consistent mAbs production: rAbs not prone to genetic drift
- Recognise identical hybridomas previously characterised as unique clones
- Allow antibody engineering to improve utility
- Feasible reagents sharing as sequences



An integrated UKRI-BBSRC strategically funded project removing barriers to veterinary vaccine development

Leveraging further external funding:

Supporting multiple projects at Pirbright, enabling Bill and Melinda Gates foundation grants to advance livestock antibody hub



Drive global collaborations



Pirbright antibodies repository

TPI house approx. 1500 unique hybridomas against different host immune markers and viruses, which can be requested through immunological toolbox website. Examples below

Pig IgG1, IgG2, IgL, IgE CD25, CD3, CD4, CD8, Class I, Class II, IgG1, IgG2, IgL, GCL2 IL-4R, MHCI, CD45, CSF1, ADGRE1, CD161, CD3, CD8.1aa, CD8.2aa, CD8b IFNa, IFNAR, IFN-VV5, IL-13R, IL-13, CSF1R, γδ CD3, γδ CD3, γδ TCR	Chicken CD152, CD154, CD275, CD276, CD4, CD40, CD44, CD45, CD80, CD86, CD8A, Bu1 CHB6, CD28, CD3, CD30, CD4 IL-4R, CD80, CD86, CD8A, IL-22, IL2B, CD8a, IL-4, IL-6, CTCL-4, DEC205, MRC1L-A, FLT3, MRC1L-B, IFNγ, MRC1L-C, IL-10, MRC1L-D, MRC1L-E, Mx, PD-L1, Tim4, Tim4L-Ig, CD40, CD40L, IL-2, IL-19	Cow IgG2, IgM, IgA, IgL, CD14, CD244, CD138, CD11a, CD11b, CD11c, CD244, CD13, CD25, CD28, CD3, CD4, CD8, IFNγ, IL-12, IL-12, LAMP1, MHC I, MHCII, CD5, CD6, CD62L CD138, CD172a, Sirp1a, γδ T cells, TNF-α, WC1, WC10, WC14, WC4, CD205, MHC II DQ, MHC II DR, CD45RO, CD47, WC1, IL-4, IL-G, IgG1, IL-12
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Facilitate information exchange

The Immunological Toolbox website A BBSRC (GCRF) funded website to enable information exchange and access to reagents and techniques

