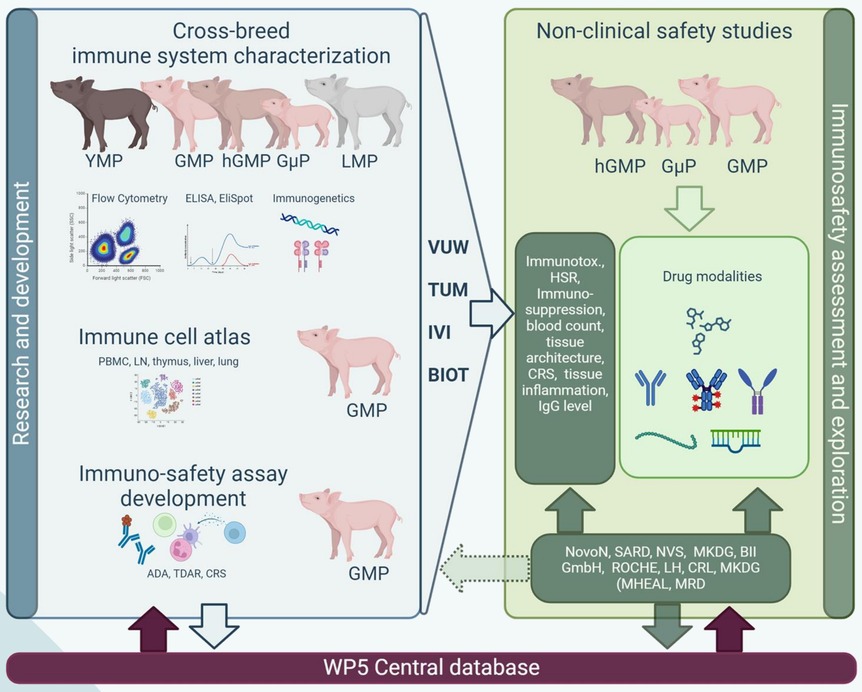
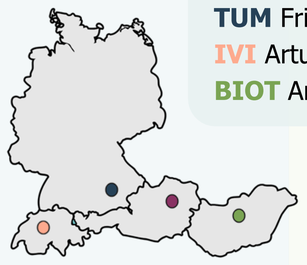
WP3: Immune system characterisation and immunosafety.



AIMS & GOALS OF WP3

This workpackage aims to comprehensively characterize the immune system of NHPig models and develop novel tools and methodologies for immunosafety testing. WP3 is divided in seven tasks (3.1-3.7), which are described below in more detail.

PARTNERS CONTRIBUTING TO WP3



PUBLIC PARTNERS

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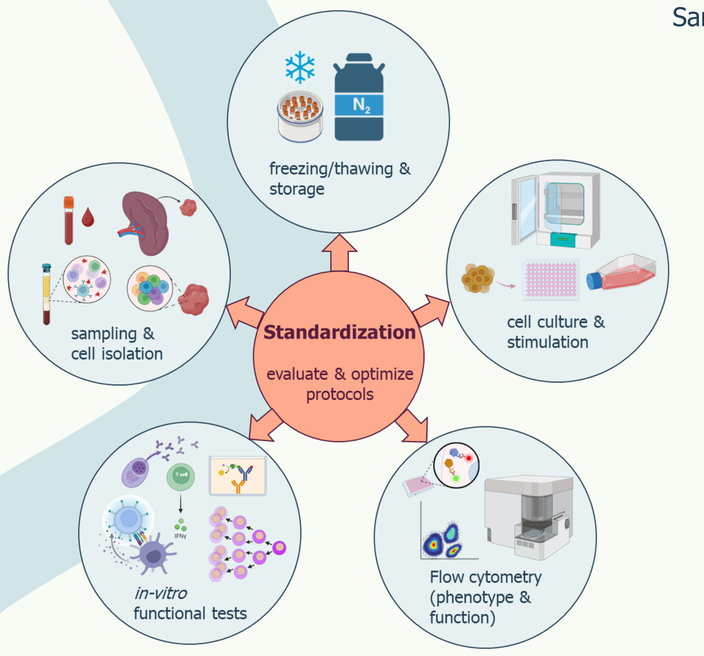
SARD Mailys Cren, Feli Walther
ROCHE Felix Weber, Philip Knuckles
MKDG Michael Schmitt
CRL Philippe Ancian, Joffrey de Larichaudy
LH Christopher Cooper, Andrew Gibbs

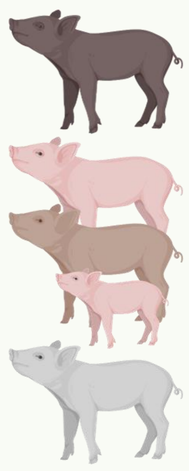
TASK 3.1 STANDARDIZATION OF ANALYSIS PROCESSES



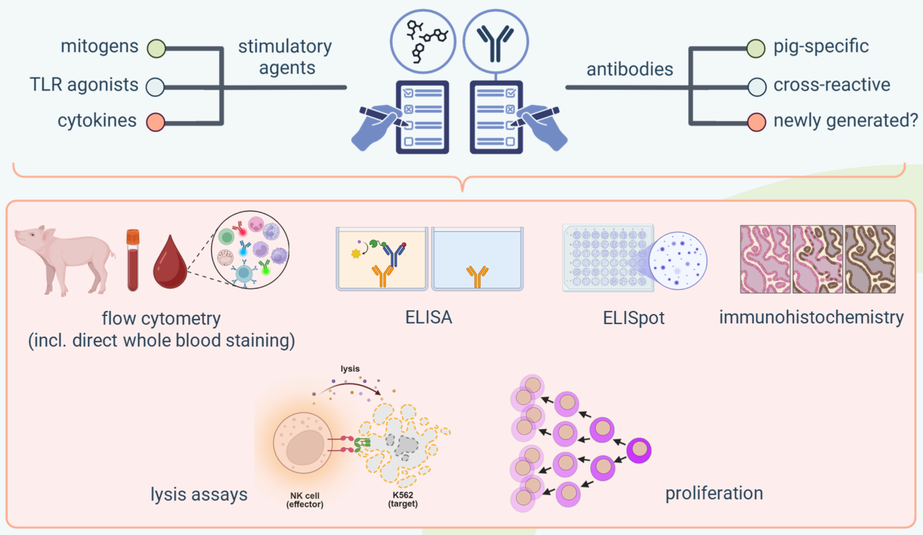
TASK 3.3 IMMUNE-CELL CHARACTERISATION OF NHPig MODELS

Samples of WP1 will provide material for investigation of different tasks.

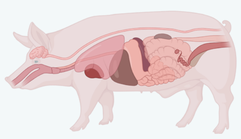
Comparative studies between breeds & sexes.



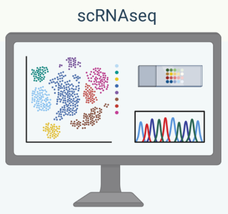
TASK 3.2 VALIDATING AND OPTIMIZING ESSENTIAL IMUNOLOGICAL REAGENTS



TASK 3.4 GENERATION OF SINGLE CELL ATLAS OF THE GMP MODEL



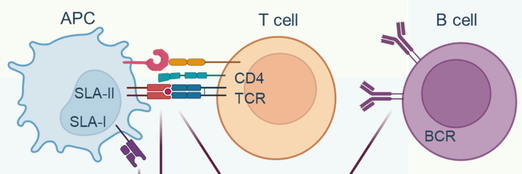
- blood
- primary lymphoid tissues
- secondary lymphoid tissues
- non-lymphoid tissues

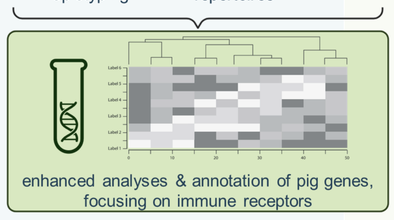


identify key markers for known & unknown immune cell subsets --> establish in silico immunophenotyping

evaluating environmental factos comparison of data to conventional pigs --> link to immunogenetics data

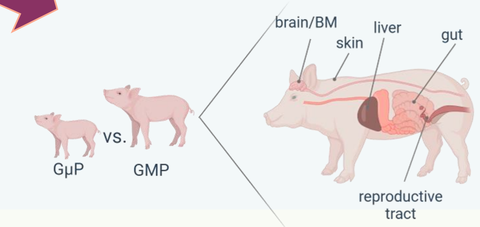
TASK 3.5 IMMUNOGENETICS



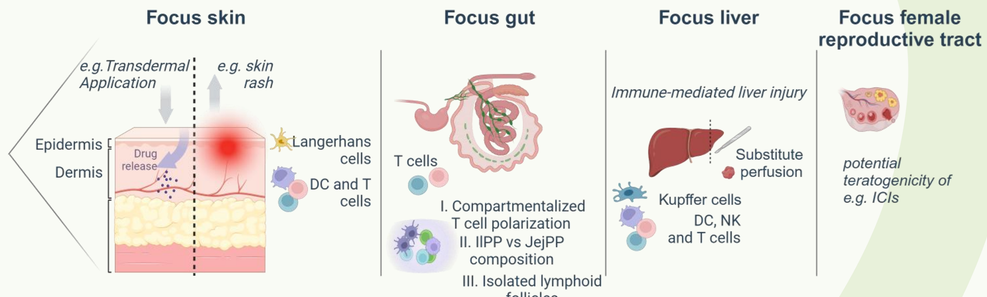


ADDITIONAL SCIENTIFIC INTERESTS

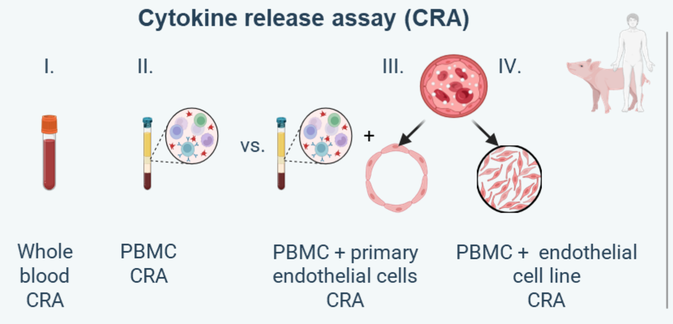
Tissue-specific immune system responses

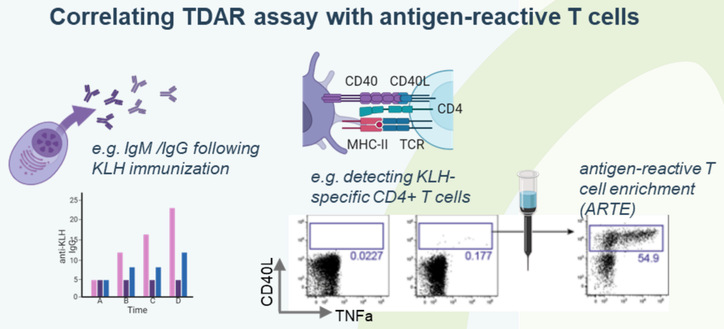


WP1 results contribute to WP4 scientific questions



TASK 3.6 PLATFORM DEVELOPMENT FOR IMMUNOSAFETY STUDIES





TASK 3.7 IMMUNOSAFETY EVALUATIONS IN NON-CLINICAL SAFETY ASSESSMENT

Non-clinical safety studies	Focus	WP3 Priority
ADA-inducing compound (?) (Sanofi)	ADA	high
small molecule Tofacitinib (Merck)	NK cells, T cells	high
small molecule cyclophosphamide (Sanofi)	TDAR assay	high
rec. protein IL-2 (Novartis)	CRS, T cells, ADA	high
peptide or NCE (Boehringer Ingelheim)	tissue lymphocytes	med
siRNA (Novo Nordisk)	tissue lymphocytes	med
small molecule CSF1R (Sanofi)	?	med
oligo (Roche)	?	low

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