## Recruiting sites

### TACERA
- Guy's Hospital
- Freeman Hospital
- UCH
- Mile End Hospital
- KCH
- Chapel Allerton Hospital, Leeds
- Manchester Royal Infirmary
- City Hospital, Birmingham
- Queen Elizabeth Hospital, Birmingham
- James Cook University Hospital
- Nuffield Orthopaedic Centre
- Queen Elizabeth Hospital, Gateshead
- Queen's Hospital, Burton
- Poole Hospital
- Queen's Medical Centre, Nottingham
- Greater Glasgow and Clyde (Glasgow Royal Infirmary, Gartnavel General Hospital & Stobhill)
- CQ016
- Raikes Hall Hospital
- NIHR Orthopaedic Hospital
- Croydon
- The Great Western
- Cannock Chase Hospital
- Homerton
- The Royal Free
- Royal Surrey
- Mid Yorkshire Hospitals NHS Trust
- Northwic Park

### PreventRA
- Salford Royal
- North & South Manchester Hospitals
- Sandwell & Birmingham West
- South Devon – Torbay
- Plymouth Hospital
- Guy’s & St. Thomas’
- Barts Hospital
- Penrice Acute Trust
- Macmillan/East Cheshire Trust
- Kings College Hospital
- Birmingham Queen Elizabeth
- Salisbury
- Trafford
- Freeman Newcastle
- Royal Devon & Exeter
- Nuffield Oxford
- Royal Cornwall
- Stepping Hill /Stockport
- Royal Cornwall
- Poole
- Royal National Hospital, Bath

### Vaccine Study
- Royal Victoria Infirmary, Newcastle
- Queen Elizabeth Hospital, Birmingham
- Glasgow Royal Infirmary

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**Supplementary Figure S1**
Predictors of Remission
Models of Clinical Remission and Response in RA Patients (3555)

Pooled Data from the Control Arm of RCTs

RA Risk Factor Profile

Prediction Algorithms

Clinical Lifestyle & demographic

Lifestyle & demographic

Genetics & serology

PREDVeNTRA
Register of FDRs of RA to evaluate predictors of the development of RA (1846)

PREVeNTRA Register of FDRs of RA to evaluate predictors of the development of RA (1846)

TACERA
Longitudinal observational study of patients with early RA (275)

Vaccine sub study
Immune response in healthy subjects receiving vaccination (49)

The Immune Toolkit
A standard assay package to measure immune status of patients

Complex Immune Phenotyping

Genetics & serology

Clinical Lifestyle & demographic

Flow cytometry

Transcriptomics

Extended serotyping & proteomics

Genetics

Metabolomics

Clinical phenotyping & Imaging

The Immune Toolkit
A standard assay package to measure immune status of patients

Supplementary Figure S2
MRC Strategy Board

Expert Panel → I&I Steering Group ← ABPI

CONSORTIUM MANAGEMENT GROUP
WP Leads, PM, Industry (+ Industry Chair)

PROJECT STEERING COMMITTEE
All partners (+ Academic Chair)

WORKPACKAGE 1
WP Leads + industry partners
- Predictors of remission
- Early RA LOS
- At risk cohort

WORKPACKAGE 2
WP Leads + industry partners
- Phase I: Biomarkers of immune state; Development of toolkit
- Phase II: Validation of toolkit in LOS
- Phase III: Validation in PoC studies; Aligned to Experimental Medicine Studies

Management plan to cover:
- Deliverables
- Milestones + Timelines
- Governance
- Funding for each WP
- WP integration

Core technology/resources:
- Biobanking
- Transcriptomics
- Flow
- Genetics
- Bioinformatics and Statistics

Supplementary Figure S3
Early RA patients

Blood & urine taken 3 monthly

**Blood**
- Gene expression (Illumina HT-12)
- Small RNA sequencing (Illumina Hiseq 2500)
- Flow cytometry: (T cells/B cells/NK cells /Treg/Monocyte & DCs Total 127 parameters)
- Proteomics (SOMAscan®)

**Urine**
- Metabolomics (NMR)
- Autoantibody profiling (SeroTag®)
- Genetics (Illumina CoreExome array Illumina iScan)

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Whole Blood, PBMC, CD4*cells, CD8*cells, CD14+ cells
Whole Blood
Whole Blood
PBMC
Plasma
Plasma
Urine
Serum
Whole Blood

Supplementary Figure S4
Healthy Subjects

Early Undifferentiated Synovitis

Early RA

Established RA

At risk subjects

Progressors

Progressors

Stratification of subjects ("patient profiles")

Systems biology/Informatics/Prediction Algorithms

Gene expression profiling

Extended serotyping

Deep clinical phenotyping

Deep immune phenotyping

Imaging

Stratification tools