**[Proteomic analysis to define predictors of treatment response to adalimumab or methotrexate in rheumatoid arthritis patients.](https://www.ncbi.nlm.nih.gov/pubmed/31819160)**

Ling SF, Nair N, Verstappen SMM, **Barton A**, Zucht HD, Budde P, Schulz-Knappe P; MATURA consortium, Plant D. Pharmacogenomics J. 2019 Dec 10. doi: 10.1038/s41397-019-0139-4.

**Lay title:** *Analysing protein levels to predict the effectiveness of medicines to treat rheumatoid arthritis*

**What was already known?**

We know that people with rheumatoid arthritis (RA) who have a specific protein in their blood called anti-CCP antibody (ACPA) do worse in the long-term. People with RA are routinely tested for ACPA.

However, we know that many other proteins in the blood exist. We think that some of these proteins might provide us with extra information on how well certain medicines for RA will work in different people.

Although many medicines are available for treating RA, we still do not know which are best to try first in which individuals. Although RA is a single condition, people with RA can have a different severity in their symptoms. For example, some people may need stronger treatment sooner.

**What did this study do?**

We tested levels of over 300 proteins in blood samples from people with RA.

We divided people into groups with similar types of proteins in their blood. These groups were related to how well people responded to medicines to treat their RA.

We also compared levels of proteins in the blood of people with RA with levels in the blood of people not living with RA. We found different levels of over 30 proteins in people with RA. Some of these proteins were also found to be related to how effective medicines were at treating people with RA.

**What does the study mean?**

These new proteins could help us to predict which medicines to give to people with RA, depending on protein levels in their blood. This may help us to give the right medicines to the right people sooner, in order to prevent joint damage in the future and reduce people’s symptoms earlier on.