



LICENSING OPPORTUNITY:

Immune biomarkers for diagnosis, prognosis and therapy response in rheumatoid arthritis

BACKGROUND INFORMATION

Rheumatoid arthritis (RA) is a common autoimmune disease, characterized by chronic inflammation of synovial joints, often resulting in joint destruction.

One third of patients has a *negative blood test* for current diagnostic biomarkers. For *early RA patients* (diagnosis <1

year) there is a window of opportunity for treatment but sensitivity of current biomarkers is even lower.

There are *no biomarkers for therapy response*.

Hasselt University has discovered and validated UH-RA.1 and UH-RA.21, 2 new plasma biomarkers for diagnosis, prognosis and therapy response in rheumatoid arthritis.



UHASSELT

KNOWLEDGE IN ACTION

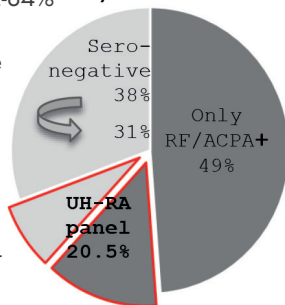
COMPELLING RESULTS

Diagnostic potential:

- UH-RA.1 and UH-RA.21 panel has a combined sensitivity of 19-33% and specificity of 82-84%

- Combined with RF & ACPA the UH-RA panel could reduce the serological gap from 38 to 31%

- When including IgM- specific testing for UH-RA.1 seronegative % drops to 25



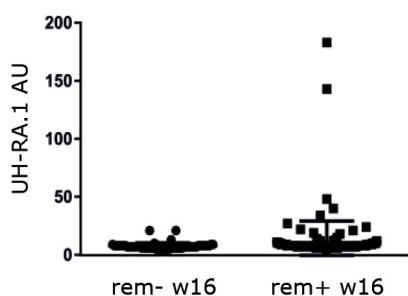
Prognostic and theranostic potential:

Anti-UH-RA.21 antibody levels

- associated with *inflammation and erosions*

- decrease in titers in patients on *DMARD*

Baseline anti-UH-RA.1 antibody levels associated with *remission at week 16* (Mann Whitney p value 0.0011):



KEY FEATURES AND ADVANTAGES

- Diagnostic value of biomarkers *validated* in three independent cohorts (n=1114).
- Research ELISA assays *translated to high-throughput peptide ELISA assays*.
- Possibility to *diagnose patients earlier* and *start treatment sooner*.
- Possibility to *monitor the efficacy* of (new) treatments (to be tested for each treatment separately) – the experienced UHasselt team is open for collaboration on this.
- Hasselt University has a *strong IP protection* for UH-RA.1 and UH-RA.21 in the EU and US.

MARKET POTENTIAL

Worldwide, RA affects approximately *1% of the population*. In the US, nearly US\$128 billion is spent each year in medical care and direct expenses.

Using our biomarkers, the 5 to 10 new cases per 10,000 adults can be *diagnosed better (more patients, early stage)*, resulting in earlier treatment and better prognosis.

The use of our biomarkers as companion diagnostics enables better and *personalized medicine*, allowing the right treatment for the right patient.

OUTSTANDING OPPORTUNITY

Patent applications that are available for licensing: EP2307451B1, US9683031B2.

Hasselt University is searching for interested parties to complete development and commercialization.

BUSINESS DEVELOPER

An Voets, PhD
UHasselt - Biomedical Research Institute

T +32 (0) 497 06 75 34

an.voets@uhasselt.be