TECHNOLOGY OFFER

TITTLE: **Use of VIP as a prognostic marker of autoimmune diseases**

BRIEF SUMMARY:
Rheumatoid arthritis (RA) and Spondyloarthritis (Spa) are autoimmune disorders that can lead to severe disability and increased mortality. Early intensive immunomodulatory treatment is the best approach to slow progression and change long-term outcome. However, it is important to detect those patients who are destined to have a more benign disease to avoid over-treating them. Probably the only validated prognostic factor in RA is anti-citrullinated protein antibodies (ACPA). There are no validated biomarkers for Spa and other autoimmune disorders.
We have described that having low VIP serum levels is a biomarker of worse clinical course and higher requirements of treatment in patients with early RA and Spa. In the former, the relevance of this new biomarker is that it improves the predictive value of ACPA since detect ACPA negative patients at risk of poor evolution and those with both biomarkers exhibited higher requirements of treatment.
VIP has been involved in the differentiation of Th lymphocytes decreasing the production of proinflammatory mediators and administration of exogenous VIP ameliorates arthritis in murine models. It is likely that those patients who are unable to up-regulate their VIP levels when they develop RA, show a worse clinical course.

THERAPEUTIC AREA:
The product is under the scope of inflammatory and autoimmune disorders. The usefulness of this product is selecting patients that would be candidates to a more intense treatment, probably including biologic therapy as first line. Pharmaceutical companies with diagnostic section would be the most interested on this product. Specially if the company has an ACPA detection kit among its products. In this case, providing kits with the capability to detect both low VIP levels and ACPA would be a competitive advantage in this market.

CURRENT STATUS:
Two preliminary studies has been published showing that having low VIP serum levels is associated with worse outcomes in patients with early RA (n=91; Martinez C et al PLoS One 2014) and SPA (n=54; Seoane IV et al. J Mol Neurosci 2015). Patients with low VIP serum levels displayed higher disease activity, disability and treatment requirements.
Unpublished data (manuscript under review) show that few single nucleotide polymorphisms can explain VIP serum levels either in patient with RA or Spa. Furthermore, in 378 patients with early arthritis the presence of genetic variants associated with low VIP serum levels were associated with higher disease activity, more intense treatment and more intense joint destruction

PATENT STATUS: **PCT-ES2015070182**. PRIORITY DATE: 03/16/2015

COOPERATION WITH INDUSTRY: We search for companies with interest to license our research work.

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