

POTATO VIRUS X CHIMERIC NANOPARTICLES FOR THE IN VITRO DIAGNOSIS OF SJOGREN'S SYNDROME

Innovations and Benefits - The kit enables a faster and easier diagnosis of the primary Sjogren 's syndrome (pSjS), a chronic autoimmune disease. The procedure is a simple blood test, that allows to bypass the biopsy of the salivary glands. The histological test is an exam invasive for the patient and expensive for the National Health System, but fundamental, in particular to diagnose the syndrome in individuals with evident symptomatology but negative to currently available serological tests. With the Potato virus X (PVX)-based kit developed, also this subclass of patients is correctly identified. The employed technology is easy to use, fast, highly sensitive and sensible, specific, reproducible and stable for several weeks. Moreover, it allows to limit the production costs. It is based on the use of plants as biofactories of the PVX plant virus and of an immunodominant peptide (the Lipo peptide) deriving from the human tears lipocalin. PVX is used as carrier of the Lipo peptide, whose encoding sequence is fused to the gene of the viral coat protein. In such way, the Lipo peptide is exposed on the virus surface in multiple copies (up to 1300) for each single chimeric virion and it is easily recognized by the autoantibodies present in the sera of the patients.

Use - It is intended for pharmaceutical companies and the National Health System, to increase the diagnostic possibilities of pSjS, simplifying and speeding up the procedure and reducing costs.

Applications and ongoing Activities - The patented diagnostic kit has been developed together with the University of Verona. Preliminary clinical data have been obtained analyzing more than 200 individuals. We are now producing results on a large group of patients as well as the business plan, to define the market interested to this technology.

How it works:

