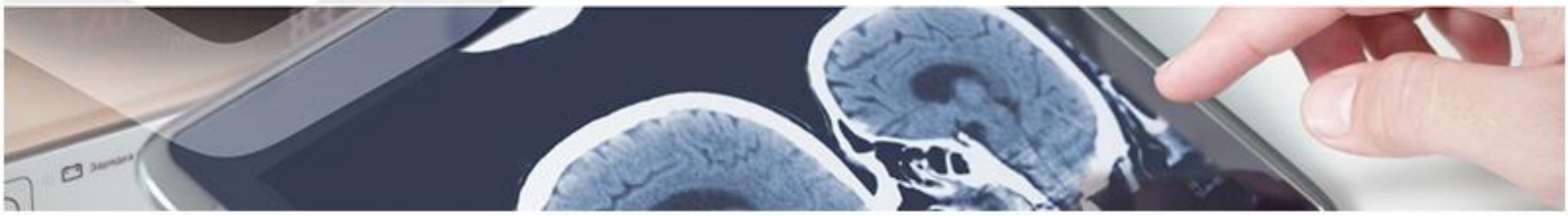
Diagnostic

Mesoporous silica nanoparticles and their use for immunoglobin uptake

A research group at the Biomedical Research Institute of Malaga (IBIMA) and the Andalusian Health Service (SAS) has developed a new matrix with high efficiency for the purification of immunoglobulins.

Oficina de TRANSFERENCIA DE TECNOLOGÍA
Sistema Sanitario Público de Andalucía



Description

Currently, commercial systems for the purification of immunoglobulin G (IgG) use G-protein bound particles or resins with inunoglobulin binding capacity.

However, one of the main problems in affinity purification is the performance that the resins or particles offer to the user. Currently, commercial products show binding capacity ranging from 6 µg Ig/mg of material to 125 µg IgG/mg of material.

To improve this performance, the research group has developed protein G-bonded mesoporous silica particles with a given particle and pore size that allow increasing the binding capacity of immunoglobulins to the particles.

Tests have shown an IgG uptake capacity of between **460-800 µg of IgG per mg of nanoparticles, representing at least a 4-fold improvement over the best performing commercial product.**

The production system also allows obtaining nanoparticles of highly homogeneous particle size and pore size.

Advantages

- **At least 4-fold increase in immunoglobulin uptake capacity.**
- **Homogeneous production.**

Intellectual Property

This technology is protected by a national and an international patent applications.

Aims

Partnership and/or license agreement for the development and exploitation of the technology.

Classification

Area: Laboratory material.

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