




Jose Antonio García-Salcedo

## TARBRAINFEK

**Nanosystems conjugated with antibody fragments to target/treat brain infections**

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A major obstacle for curing brain diseases is the blood-brain barrier (BBB), which impedes therapeutic agents to reach the brain and target the related pathogens. In this project, we want to develop a drug delivery nanosystem coated with antibody fragments, called nanobodies (Nbs) as a proof of concept for targeting brain infections caused by bacteria, virus and parasite. These Nbs will be then conjugated to the drug-loaded nanoparticles constructed using polymer or dendrimer nanovectors. The success of this project will validate the proof-of-concept study to combine the nanobody technology with the nanotechnology based drug delivery for effectively overcoming BBB and targeting pathogens in brain infections. We expect to generate clinical useful pilot results for the best performing candidates for future translation, and at the same time, research data of general scientific interest useful to the broad scientific community.

