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## Nanoparticles designed to target chemokine-related inflammatory processes in vascular diseases and cancer metastasis and implementation of a biosensor to diagnose these disorders (NANODIATER)

Inflammatory processes and endothelial expression of chemokines and cell adhesion molecules accompany atherosclerotic plaque formation and cancer cell metastasis. Therefore, therapeutic blockage and early diagnosis of inflammation may prevent these pathological events. NANODIATER proposes to design nanoparticles (NP) as "cell sensors" for tumorigenic or inflammatory cells and for targeted drug delivery to the inflammatory sites. The NP targeting exclusively activated endothelium will carry chemokine antagonists or chemokine receptor antagonists. Upon binding, the NP will release the antagonists, thus blocking downstream the inflammatory processes and preventing atheroma development or metastasis.

