

TARGETING SENESCENT CELLS USING MOLECULAR IMPRINTED POLYMERS AS DRUG DELIVERY SYSTEMS

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Cellular senescence is a mechanism of irreversibly growth arrest that has been presented to have contributed to aging and age-related pathologies, as well as promoted tumor suppression at advanced ages. In this work, we used molecular imprinted polymers (MIPs) nanoparticles to target senescent cells. Molecular imprinting relies on the generation of molecular recognition sites within a synthetic polymers. In essence, the polymeric matrix contains template-derived sites which allow MIPs to selectively recognise the target molecule. Due of these features, MIPs have been applied in sensors, assays and separation applications. Herein, we show a novel application of MIPs nanoparticles (often referred to as “plastic antibodies”) in biomedicine by targeting epitopes of two protiens (B2MG and DEP1) overexpressed in senescent cells. The nanoscale format of MIPs nanoparticles is suitable for cellular or *in vivo* applications, with the potential of using these nanoMIPs as drug delivery systems