

Polymer nanoparticles:

Design and functions in nanomedicine

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Polymeric nanoparticles are present in our environment in various forms. They enhance our daily activities and help the treatment of diseases, and the detection of tumors or sites of injury. Their functions depends on their internal morphology obtained via assembly of single polymers chains driven by “weak” forces acting cooperatively.

Nanoparticles affect cells by virtue of their size, independently of their composition. They slow down cell migration and enhance cell-cell cohesion in 2D and 3D. Our observations may have important implications in the design of approaches towards tissue engineering and cancer treatment.

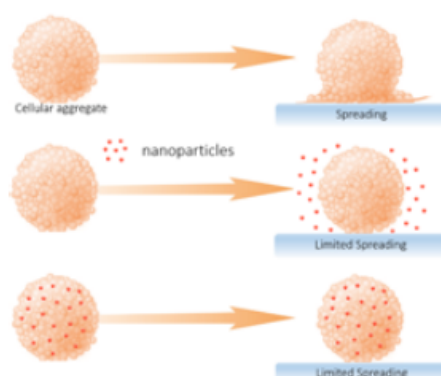


Figure 1: Nanoparticles slow down the spreading of cell aggregates

References

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