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Dynamic polymer hydrogels as synthetic extracellular matrices for 3D cell culture

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Stellingen

Dynamic polymer hydrogels as synthetic extracellular matrices for 3D cell culture

1. *In vitro* cell culture models have become valuable tools to examine drug effectiveness and screen drug toxicity, because of their use of accessible cell sources and scalability. *Chapter 1.*
2. Rebuilding the *in vivo* cell ECM by using of synthetic polymer hydrogels enables the regulation of cell behaviors *in vitro*, including cell viability, migration, proliferation and differentiation into specific cell lineages. *Chapter 2 and 3.*
3. Supramolecular co-assembly is an effective strategy to engineer multi-component hydrogels involving cell-responsive biological cues in a flexible and controlled manner. *Chapter 2 and 3.*
4. Cyclic thiosulfonates could be an efficient crosslinking motif in fabricating disulfide-based hydrogels that display fast gelation character, thiol-based dynamics and degradability. *Chapter 4.*
5. Hydrogels that encode dynamics offer better support for cells enabling natural behaviors and functions. *Chapter 2 and 4.*
6. Through a structure design of reaction moieties, macro properties of synthetic hydrogels (pore size) can be directly tuned and controlled. *Chapter 5.*
7. Actions speaks louder than words.
8. When you feel life is tough, it is just the right moment to gain and grow.
9. Positive thinking is the first step to success.