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Trends in the Development of Bioresorbable Scaffolds

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Abstract. Currently, biomaterials are increasingly in demand in medicine and are fundamental components of tissue engineering. The necessary factors of these materials to ensure their ability to effectively function in the human body are biocompatibility, bioactivity, bioresorption and non-toxicity. An ideal implant should have a number of physical, chemical and biological characteristics to stimulate cell proliferation and promote tissue formation. Bioresorbable polymers have advantages for tissue engineering applications due to a wide range of mechanical properties combined with sufficient chemical inertness and degradation rate. Given the increasing number of studies in the field of biomaterials for medical applications, the purpose of this review is to examine recently developed implantable materials. In this work, emphasis is placed on the development of the composition of polymers that determine the characteristics of future bioresorbable materials, as well as on the choice of optimal parameters and a method for their preparation.

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