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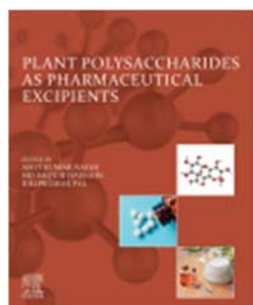
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#### **Chapter 19 - Pharmacokinetics of bioactive plant-derived polysaccharides for enhanced drug release, stability, bioavailability and target specificity**

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#### **Abstract**

Polysaccharide-based composites are materials sourced from plants that can help maintain the high quality and extended shelf life of pharmaceutical products at moderate to cold temperatures. In some instances, plant-extracts such as cellulose, alginate, and starch blended with other bioactive agents are

employed in improving the properties of these natural polysaccharides toward ensuring enhanced drug release, stability, bioavailability, and target specificity. Some inherent properties of these polysaccharides include total dissolved solids, firmness, and quantity of titratable acids, which help to attain these properties for improved activities such as stability and compatibility. Polysaccharides are known to exhibit retarded color development, reduced acidity, and increased firmness in drug-materials, hence the need to study the mechanisms underlying their functionalities when employed for pharmaceutical purposes. No doubt, plant-based polysaccharides have shown some measure of superiority in the extension of the shelf life of pharmaceutical products, hence the need to understand their dynamics and kinetics that bring about their high activities, potencies and specificities when used in pharmaceutical products.

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