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The antiviral activity of polysaccharides and their derivatives

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Abstract: Viral infectious diseases are seriously endangering human health. In the search for effective antiviral drugs, people have found that polysaccharides have good antiviral activity. As an effective and low-toxic antiviral component, polysaccharides have broad prospects for medicinal use and are deserved for further study. Herein, the antiviral activity and action mechanisms of polysaccharides and their various derivatives were summed up and analyzed.

Key words: Plant polysaccharides; animal polysaccharides; microbial polysaccharides; derivatives; antiviral activity; mechanisms

1. Introduction

Viral infections have always been a worldwide problem that threatens human health. They are also the main diseases of animals. On the one hand, this is because the virus, like all living things, has the ability to inherit, mutate and evolve. It is a very small, extremely simple life form, highly parasitic, and completely dependent on the energy and metabolic system of the host cell. To obtain the substances and energy needed for life activities, some viruses can even induce cancerous cells. On the other hand, the most important condition that must be possessed as an antiviral drug is to inhibit the virus in the cell and have no effect on the normal metabolism of cell. At present, a large number of antiviral drugs have serious side effects, which makes it difficult to develop effective antiviral agents with little side effects.

Polysaccharides are macromolecular compounds, widely found in animals, plants and microorganisms. They are an important part of the organism. Numerous studies