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Diagnostics and therapy of human diseases-focus on sialidases

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**Аннотация:**

Sialic acid residues that make part of the cell surface repertoire of carbohydrate residues are implicated in various physiological processes and human pathologies. Sialidases, or neuraminidases, are the enzymes that are able to cleave and release the sialic acid residues, while trans-sialidases can transfer the residues from donor to acceptor molecules. They are important for processing the surface glycolipids and glycoproteins. Therapeutic potential of pharmacological sialidases inhibition is currently actively studied. Knowledge and expertise gained from genetic defects leading to human sialidase deficiency can be used for designing such drugs. In this review, we discuss the current progress in studying sialidases and their inhibitors and the relevance of these studies to developing novel therapeutic approaches. In vitro studies suggest that some sialidase inhibitors might be useful therapeutics for treating sialidosis, cancer, infections, immune diseases, atherosclerosis and other pathologies. Consequently, there is a field for further research and development. A thorough investigation of human sialidases is therefore crucial to human health.

**Ключевые слова:**

fibroblast growth factor, ganglioside, garlic extract