



Review

Therapeutic potential of adenosine analogues and conjugates

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Abstract:

This review summarizes current knowledge of adenosine analogues and conjugates with promising therapeutic properties. Adenosine is a signaling molecule that triggers numerous physiological responses. It acts through the adenosine receptors (ARs), belonging to the family of G-protein-coupled receptors and widely distributed throughout the body. Moreover, adenosine is involved in key biochemical processes as a part of ATP, the universal energy currency. Thus, compounds that are analogues of adenosine and its conjugates have been extensively studied as potential therapeutics. Many inhibitors of ARs are in clinical trials as promising agents in treatment of inflammation, type 2 diabetes, arrhythmia and as vasodilators used in the myocardial perfusion imaging (MPI) stress test. Furthermore, adenosine analogues revealed high efficacy as enzyme inhibitors, tested for antitrypanosomal action and as bivalent ligands and adenosine-oligoarginine conjugates as inhibitors of protein kinases.

Key words:

adenosine, adenosine conjugates, adenosine receptors, inhibitors of protein kinases
