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Sodium-Potassium Adenosine Triphosphatase Inhibitor RX108

National Cancer Institute

Source

National Cancer Institute. *Sodium-Potassium Adenosine Triphosphatase Inhibitor RX108*. NCI Thesaurus. Code C156728.

A small-molecule, inhibitor of sodium-potassium adenosine triphosphatase (Na⁺/K⁺-ATPase) with potential antineoplastic activity. Upon administration, RX108 inhibits the activity of the Na⁺/K⁺-ATPase, which prevents the activation of various signal transduction pathways that play a key role in tumor proliferation. This may lead to cell-cycle arrest, apoptosis, and autophagic cell death. Na⁺/K⁺-ATPase is overexpressed in certain tumor types and may serve as a scaffold for the assembly of multiple-protein signaling complexes that regulate cell proliferation and motility. In normal, healthy cells, the Na⁺/K⁺-ATPase controls transportation of Na⁺ and K⁺ across the cell membrane and is essential for electrochemical gradient maintenance, osmotic balance, and cellular pH.