Description
Azathioprine is a purine analog that acts as a prodrug of mercaptopurine. Azathioprine exhibits anticancer chemotherapeutic, immunosuppressive, and antiviral activities. Azathioprine inhibits amidophosphoribosyl transferase, inhibiting the production of adenine and guanine purines and preventing DNA synthesis. Azathioprine is clinically used to suppress the immune response in organ transplant subjects and is currently in clinical trials exploring its chemotherapeutic benefit. Azathioprine suppresses experimental autoimmune myasthenia gravis in animal models. In vitro, azathioprine downregulates expression of ANF-related apoptosis-inducing ligand and, separately, inhibits Vav activity on Rac GTPases, preventing conjugation of antigen-presenting cells (APCs) and T cells. Azathioprine also exhibits antiviral activity against bovine viral diarrhea virus.

References

