Furosemide

Product Number F 4381
Store at Room Temperature

**Product Description**
Molecular Formula: C₁₂H₁₁ClN₂O₅S
Molecular Weight: 330.7
CAS Number: 54-31-9
Melting Point: 206 °C
Synonyms: Frusemide, Lasix

Furosemide is a potent diuretic with rapid action. It acts to inhibit electrolyte absorption in the kidney, increasing excretion of sodium, potassium, calcium, and chloride ions, and enhancing water excretion. Therapeutic uses include treatments for hypertension, severe hypercalcemia, and edema.¹

Recent research has indicated a broader effect of furosemide on other tissues. It has been reported that thiamine uptake and utilization may be affected by chronic treatment of furosemide,² and that it may have anticonvulsant action in epileptics.³ This claim has been supported by molecular studies of its binding to specific GABA receptors in the brain.⁴ In studies using recombinant receptors expressed in *Xenopus* oocytes, furosemide was a potent antagonist of cerebellar granule cell-specific α6 β2 γ2 receptors (IC₅₀ approx. 10 µM), but not α1 β2 γ2 receptors (IC₅₀ >3 mM).⁵

**Precautions and Disclaimer**
For Laboratory Use Only. Not for drug, household or other uses.

**Preparation Instructions**
This product is soluble in acetone (50 mg/ml), yielding a clear to slightly hazy yellow solution. It is also soluble in methanol (50 mg/ml), with heat as needed. It is slightly soluble in ethanol, soluble in methanol, DMSO, and alkali hydroxides. Furosemide is practically insoluble in water. Commercial solutions at 10 mg/ml are prepared using NaOH, giving a pH 8.0-9.3.

**Storage/Stability**
A 1 mg/ml solution in 0.9% NaCl was stable up to 48 hours when exposed to diffuse daylight or fluorescent room lighting, but decomposed rapidly when exposed to direct sunlight. Solutions can be sterilized by autoclaving.

**References**