Midodrine (hydrochloride)

**CAS Registry No.:** 43218-56-0

**Formal Name:** 2-amino-N-[2-(2,5-dimethoxyphenyl)-2-hydroxyethyl]-acetamide, monohydrochloride

**MF:** C_{12}H_{18}N_{2}O_{4} • HCl

**FW:** 290.7

**Purity:** ≥95%

**Stability:** ≥2 years at -20°C

**Supplied as:** A crystalline solid

**UV/Vis.:** λ_{max} 290 nm

### Laboratory Procedures

For long term storage, we suggest that midodrine (hydrochloride) be stored as supplied at -20°C. It should be stable for at least two years.

Midodrine (hydrochloride) is supplied as a crystalline solid. A stock solution may be made by dissolving the midodrine (hydrochloride) in the solvent of choice. Midodrine (hydrochloride) is soluble in organic solvents such as DMSO and dimethyl formamide, which should be purged with an inert gas. The solubility of midodrine (hydrochloride) in these solvents is approximately 10 and 2 mg/ml, respectively.

Midodrine (hydrochloride) is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, midodrine (hydrochloride) should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Midodrine (hydrochloride) has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

Midodrine is a prodrug of the α1-adrenergic receptor agonist, 1-(2',5’-dimethoxyphenyl)-2-aminoethanol (K_{i} = 2, 6.9, and 1.7 μM for α_{1A}, α_{1B}, α_{1D}, respectively). After oral administration it is completely absorbed via the intestinal H^{+}-coupled peptide transporter 1 and converted to the active form through cleavage of a glycine residue. At 1-5 mg/kg, midodrine can produce a dose-related increase in mean arterial pressure in normotensive rats and improve the orthostatic index in an experimental model of postural hypotension.

### References