Background: Bortezomib, a boronic acid dipeptide, is a specific, potent, and reversible proteasome inhibitor that has also been shown to have a stabilizing effect on proteins that inhibit cell survival and cell cycle progression, such as p53 (1,2). Researchers have demonstrated that bortezomib inhibits activation and nuclear translocation of NF-κB, subsequently decreasing early tumor survival (3). The increase in bortezomib-stabilized, misfolded, and ubiquitinated proteins that interfere with cell survival and other important pathways, further support its anti-tumor effects (3).

Molecular Formula: C_{19}H_{25}BN_4O_4

Molecular Weight: 384.24 g/mol

Solubility: Soluble in DMSO and ethanol at 200 mg/ml, very poorly soluble in plain water.

Purity: 99%

Directions for Use: Bortezomib is supplied as a lyophilized powder. For a 1 mM stock, reconstitute the 2.5 mg in 6.51 ml DMSO. Working concentrations and length of treatment can vary depending on the desired effect, but it is typically used at 1-1000 nM for 2-48 hours.

Background References:

Storage: Store lyophilized or in solution at -20°C, desiccated. Protect from light. In lyophilized form, the chemical is stable for 24 months. Once in solution, use within 3 months to prevent loss of potency. Aliquot to avoid multiple freeze/thaw cycles.