**PRODUCT INFORMATION**

**Epoxomicin**  
**Item No. 10007806**

CAS Registry No.: 134381-21-8  
Formal Name: N-acetyl-N-methyl-L-isoleucyl-L-isoleucyl-N-[(1S)-3-methyl-1-[(2R)-2-methyloxiranyl]carbonyl]butyl]-L-threoninamide  
Synonym: BU 4061T  
MF: C_{28}H_{50}N_{4}O_{7}  
FW: 554.7  
Purity: ≥98%  
Supplied as: A solution in DMSO  
Storage: -20°C  
Stability: ≥2 years

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

**Description**

Epoxomicin is a potent anti-tumor agent isolated from *Actinomycetes* that is used as a selective and irreversible inhibitor of the 20S proteasome. It inhibits proteasome activity in cell growth assays with an IC_{50} value of 4 nM and demonstrates potent cytotoxicity against B16-F10, HCT116, and Moser solid tumor cells, as well as P388 and K562 leukemia cells with IC_{50} values ranging from 2-44 nM.^{1,2} By inhibiting osteoblast proteasome activity, epoxomicin stimulates bone formation at concentrations as low as 10 nM.^{3} Intraperitoneal injection of 1.5 mg/kg epoxomicin given daily for two weeks induces Parkinson’s-like symptoms in rats and addition of 100 nM epoxomicin to rat ventral midbrain cultures results in apoptosis specific to dopaminergic neurons.^{4,5} Epoxomicin-induced parkinsonism can be a useful model to examine mechanisms and therapies for the disease.

**References**