**PRODUCT INFORMATION**

**TAK-599**  
Item No. 23696

**CAS Registry No.:** 400827-46-5  
**Formal Name:** 4-[[2-(((6R,7R)-2-carboxy-7-[[2Z]-2-(ethoxyimino)-2-[5-(phosphonoamino)-1,2,4-thiadiazol-3-yl]acetyl]amino)-8-oxo-5-thia-1-azabicyclo[4.2.0]oct-2-en-3-yl]thio]-4-thiazolyl]-1-methyl-pyridinium, monoacetate

**MF:** C_{22}H_{22}N_{8}O_{8}PS_{4} • C_{2}H_{3}O_{2}  
**FW:** 744.7  
**Purity:** ≥98%  
**UV/Vis.:** λ_{max} 246 nm  
**Storage:** -20°C  
**Stability:** ≥2 years

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

**Laboratory Procedures**

TAK-599 is supplied as a crystalline solid. A stock solution may be made by dissolving the TAK-599 in the solvent of choice. TAK-599 is soluble in the organic solvent DMSO, which should be purged with an inert gas, at a concentration of approximately 5 mg/ml.

TAK-599 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, TAK-599 should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. TAK-599 has a solubility of approximately 0.2 mg/ml in a 1:4 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

**Description**

TAK-599 is a prodrug of T-91825, a cephalosporin antibiotic. In vitro, TAK-599 inhibits growth of S. pneumoniae, S. aureus, methicillin-resistant S. aureus (MRSA), E. coli, and K. pneumoniae (MICs = 0.008-2 mg/L). It is rapidly converted to T-91825 in rats and monkeys. TAK-599 has bacteriostatic effects in mice infected with S. pneumoniae, S. aureus, MRSA, E. coli, or K. pneumoniae when administered at doses ranging from 0.2-234 mg/kg per day and also decreases the number of CFUs in a mouse model of thigh infection. It exhibits a protective effect against systemic infection by clinical MRSA isolates in mice (ED_{50} = 1.08-4.81 mg/kg).

**References**