Umifenovir (hydrochloride)

**Item No. 16933**

**CAS Registry No.:** 131707-23-8

**Formal Name:** 6-bromo-4-[(dimethylamino)methyl]-5-hydroxy-1-methyl-2-[(phenylthio)methyl]-1H-indole-3-carboxylic acid, ethyl ester, monohydrochloride

**MF:** C$_{22}$H$_{25}$BrN$_2$O$_3$S • HCl

**FW:** 513.9

**Purity:** ≥98%

**UV/Vis.:** $\lambda_{\text{max}}$: 225, 255, 315 nm

**Supplied as:** A crystalline solid

**Storage:** -20°C

**Stability:** ≥2 years

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

### Laboratory Procedures

Umifenovir (hydrochloride) is supplied as a crystalline solid. A stock solution may be made by dissolving the umifenovir (hydrochloride) in the solvent of choice, which should be purged with an inert gas. Umifenovir (hydrochloride) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of umifenovir (hydrochloride) in these solvents is approximately 10, 15, and 20 mg/ml, respectively.

Umifenovir (hydrochloride) is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, umifenovir (hydrochloride) should first be dissolved in DMF and then diluted with the aqueous buffer of choice. Umifenovir (hydrochloride) has a solubility of approximately 0.1 mg/ml in a 1:8 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

Umifenovir is a broad-spectrum antiviral agent.\(^1\) It inhibits the replication of H5N1 influenza (IC$_{50}$ = 30 µg/ml) and severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) \(\textit{in vitro}\) (IC$_{50}$ = 3.537 µM).\(^2\) Umifenovir inhibits entry of hepatitis C virus (HCV) pseudoparticles in Huh7 cells (IC$_{50}$ = 6 µg/ml) and inhibits Zika virus protein synthesis in Vero cells.\(^3\) \(\textit{In vivo}\), umifenovir (45 mg/kg) reduces the formation of influenza-induced lung lesions in ferrets.\(^4\)

### Reference