#11916 Store at -20°C

Chelerythrine Chloride

☑ 5 mg

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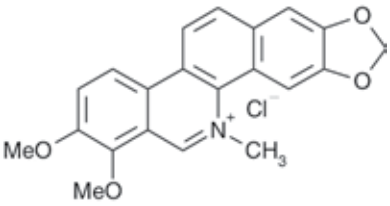
For Research Use Only. Not For Use In Diagnostic Procedures.

Background: Chelerythrine is a benzophenanthridine alkaloid that elicits a wide range of biological responses. It was initially reported to be a potent PKC inhibitor (IC_{50} = 660 nM) through interaction with the catalytic domain, competitive with respect to the phosphate acceptor, noncompetitive with respect to ATP (1), and is often used in research as a means to inhibit PKC activation (2-4). However, subsequent studies have shown that chelerythrine is not a potent PKC inhibitor and its effects are independent of PKC inhibition (5,6). Researchers have demonstrated that chelerythrine activates JNK and p38 through an oxidative stress mechanism (6), inhibits Bcl-xL by preventing Bcl-xL-Bak BH3 peptide binding (IC_{50} = 1.5 μM) and disrupting the interaction between Bcl-xL and Bax (7), and induces apoptosis (6-8).

Molecular Formula: $C_{21}H_{18}NO_4Cl$

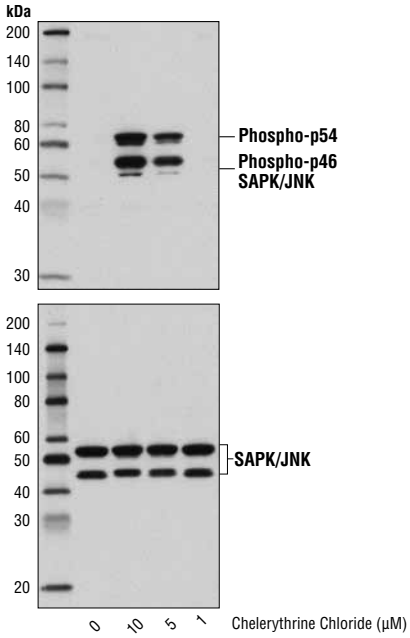


Molecular Weight: 383.82 g/mol

Solubility: Soluble in DMSO at 5 mg/ml; very poorly soluble in ethanol and water with maximum solubility in water ~10-50 µM.

Purity: >99%

Directions for Use: Chelerythrine Chloride is supplied as a lyophilized powder. For a 10 mM stock, reconstitute the 5 mg in 1.30 ml DMSO. Working concentrations and length of treatment can vary depending on the desired effect, but it is typically used at 1-20 µM either as a pretreatment for 15 min-1 hr prior to treating with a stimulator or used alone with varying treatment times lasting up to 24 hr.



Western blot analysis of extracts from HeLa cells, serum-starved overnight and untreated or treated with Chelerythrine Chloride (2 hr) at the indicated concentrations, using Phospho-SAPK/JNK (Thr183/Tyr185) (81E11) Rabbit mAb #4668 (upper) or SAPK/JNK (56G8) Rabbit mAb #9258 (lower).

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.

Background References:

(1) Herbert, J.M. et al. (1990) *Biochem Biophys Res Commun* 172, 993-9.

(2) Chao, M.D. et al. (1998) *Planta Med* 64, 662-3.

(3) Nakai, M. et al. (1999) *J Neurochem* 72, 1179-86.

(4) Iwabu, A. et al. (2004) *J Biol Chem* 279, 14551-60.

(5) Lee, S.K. et al. (1998) *J Biol Chem* 273, 19829-33.

(6) Yu, R. et al. (2000) *J Biol Chem* 275, 9612-9.

(7) Chan, S.L. et al. (2003) *J Biol Chem* 278, 20453-6.

(8) Chmura, S.J. et al. (2000) *Clin Cancer Res* 6, 737-42.

Applications Key: **W**—Western **IP**—Immunoprecipitation **IHC**—Immunohistochemistry **ChIP**—Chromatin Immunoprecipitation **IF**—Immunofluorescence **F**—Flow cytometry **E-P**—ELISA-Peptide

Species Cross-Reactivity Key: **H**—human **M**—mouse **R**—rat **Hm**—hamster **Mk**—monkey **Mi**—mink **C**—chicken **Dm**—D. melanogaster **X**—Xenopus **Z**—zebrafish **B**—bovine **Dg**—dog **Pg**—pig **Sc**—S. cerevisiae **Ce**—C. elegans **Hr**—horse **All**—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.