

Chelerythrine Chloride



Orders: 877-616-CELL (2355)
orders@cellsignal.com

Support: 877-678-TECH (8324)

Web: info@cellsignal.com
cellsignal.com

3 Trask Lane | Danvers | Massachusetts | 01923 | USA

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 ($IC_{50} = 1.5$ μ M) 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

Purity

>99%

CAS

3895-92-9

Solubility

Soluble in DMSO and H₂O at 5mg/ml.

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.

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 μ M 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.

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.

Trademarks and Patents

Cell Signaling Technology is a trademark of Cell Signaling Technology, Inc.

All other trademarks are the property of their respective owners. Visit cellsignal.com/trademarks for more information.

Limited Uses

Except as otherwise expressly agreed in a writing signed by a legally authorized representative of CST, the following terms apply to Products provided by CST, its affiliates or its distributors. Any Customer's terms and conditions that are in addition to, or different from, those contained herein, unless separately accepted in writing by a legally authorized representative of CST, are rejected and are of no force or effect.

Products are labeled with For Research Use Only or a similar labeling statement and have not been approved, cleared, or licensed by the FDA or other regulatory foreign or domestic entity, for any purpose. Customer shall not use any Product for any diagnostic or therapeutic purpose, or otherwise in any manner that conflicts with its labeling statement. Products sold or licensed by CST are provided for Customer as the end-user and solely for research and development uses. Any use of Product for diagnostic, prophylactic or therapeutic purposes, or any purchase of Product for resale (alone or as a component) or other commercial purpose, requires a separate license from CST. Customer shall (a) not sell, license, loan, donate or otherwise transfer or make available any Product to any third party, whether alone or in combination with other materials, or use the Products to manufacture any

commercial products, (b) not copy, modify, reverse engineer, decompile, disassemble or otherwise attempt to discover the underlying structure or technology of the Products, or use the Products for the purpose of developing any products or services that would compete with CST products or services, (c) not alter or remove from the Products any trademarks, trade names, logos, patent or copyright notices or markings, (d) use the Products solely in accordance with CST Product Terms of Sale and any applicable documentation, and (e) comply with any license, terms of service or similar agreement with respect to any third party products or services used by Customer in connection with the Products.