Cucurbitacin B
Item No. 14820

CAS Registry No.: 6199-67-3
Formal Name: \((2\beta,9\beta,10\alpha,16\alpha,23E)-25-\)
\((\text{acetyloxy})-2,16,20-\text{trihydroxy}-9-\text{methyl}-19-\text{norlanosta}-5,23-\text{diene}-3,11,22-\text{trione}\)

Synonyms: Cuc B, NSC 49451, NSC 144154
MF: \(C_{32}H_{46}O_8\)
FW: 558.7
Purity: \(\geq 98\%\)
Stability: \(\geq 2\) years at -20°C
Supplied as: A crystalline solid
UV/Vis.: \(\lambda_{\text{max}}: 226\) nm

For long term storage, we suggest that cucurbitacin B be stored as supplied at -20°C. It should be stable for at least two years.

Cucurbitacin B is supplied as a crystalline solid. A stock solution may be made by dissolving the cucurbitacin B in the solvent of choice. Cucurbitacin B is soluble in organic solvents such as acetonitrile, dichloromethane, and ethyl acetate, which should be purged with an inert gas.

Cucurbitacin B is sparingly soluble in aqueous solutions. To enhance aqueous solubility, dilute the organic solvent solution into aqueous buffers or isotonic saline. If performing biological experiments, ensure the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. We do not recommend storing the aqueous solution for more than one day.

Cucurbitacin B is a plant-derived triterpene that has the classic four-ring structure of mammalian steroids. It has diverse effects on mammalian cells, most notably inducing cell cycle arrest or apoptosis in a range of cancer cell lines.\(^1\)-\(^3\) Cucurbitacin B inhibits the growth of several breast cancer cell lines (IC\(_{50}\) = 18-50 nM).\(^4\) It suppresses the growth of tumors developed from MDA-MB-231 and 4T-1 breast cancer cells in mice.\(^4\)

Cucurbitacin B blocks the inflammatory response of macrophages treated with lipopolysaccharide.\(^5\) In Drosophila, it serves as an ecdysteroid receptor antagonist (K\(_d\) = 5 \(\mu\)M).\(^6\)

References


WARNING

This product is for research only - not for human or veterinary diagnostic or therapeutic use.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY

Buyer agrees to purchase the material subject to Cayman’s Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability Information can be found on our website.