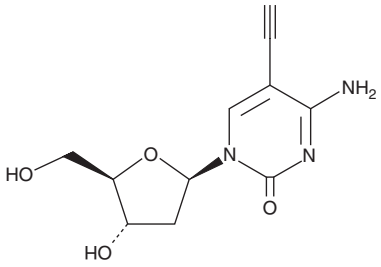
PRODUCT INFORMATION

5'-Ethynyl-2'-deoxycytidine

Item No. 11581

CAS Registry No.:	69075-47-4
Formal Name:	2'-deoxy-5-ethynyl-cytidine
Synonyms:	Click Tag™ 5'-Ethynyl-2'-deoxycytidine, EdC, 2'-deoxy-5-Ethynylcytidine
MF:	$C_{11}H_{13}N_3O_4$
FW:	251.2
Purity:	≥98%
UV/Vis.:	λ_{max}: 212, 233, 292 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

5'-Ethynyl-2'-deoxycytidine (EdC) is supplied as a crystalline solid. A stock solution may be made by dissolving the EdC in the solvent of choice. EdC is soluble in organic solvents such as DMSO and dimethyl formamide, which should be purged with an inert gas. The solubility of EdC in these solvents is approximately 20 and 5 mg/ml, respectively.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of EdC can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of EdC in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

EdC is a nucleoside analog that inhibits replication of the herpes simplex virus-1 (HSV-1) KOS strain (ID_{50} = 0.2 µg/mL).[1] It also reduces virus-induced cytopathogenicity of HSV-1, HSV-2, and vaccinia virus strains in PRK cells (MICs = 0.2-0.4, 1-2, and 5 µg/ml, respectively).[2] EdC is an inhibitor of thymidylate synthetase, selectively reducing DNA incorporation of [1',2'-^{3}H]deoxyuridine over [CH_3-^{3}H]deoxythymidine in PRK cells (ID_{50}s = 3 and 120 µg/ml, respectively). It inhibits thymidine synthetase in and reduces proliferation of L1210 cells, an effect which is reversed by addition of deoxythymidine (ID_{50}s = 4.4 and 1,000 µg/ml, respectively). EdC has been used to monitor DNA synthesis and cellular replication *via* click chemistry conjugation of the ethynyl group to an azido group of various fluorochromes.[3]

References

1. Walker, R.T., Barr, P.J., De Clereq, E., *et al.* The synthesis and properties of some antiviral nucleosides. *Nucleic Acids Res.* **1(Supp. 1)**, s103-s108 (1978).
2. De Clercq, E., Balzarini, J., Descamps, J., *et al.* Antiviral, antimetabolic, and cytotoxic activities of 5-substituted 2'-deoxycytidines. *Mol. Pharmacol.* **21(1)**, 217-223 (1982).
3. Seela, F., Mei, H., Xiong, H., *et al.* 5-Ethynyl-2'-deoxycytidine: A DNA building block with a 'clickable' side chain. *Acta. Crystallogr. C.* **68(Pt 10)**, o395-o398 (2012).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM