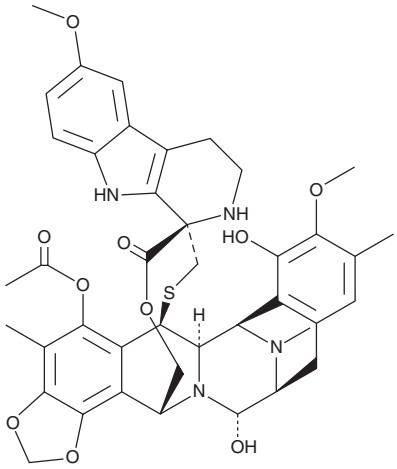
PRODUCT INFORMATION

Lurbinectedin

Item No. 44852



CAS Registry No.:	497871-47-3
Formal Name:	(1′R,6R,6aR,7R,13S,14S,16R)-5-(acetyloxy)-2′,3′,4′,6,6a,7,9′,13,14,16-decahydro-8,14-dihydroxy-6′,9-dimethoxy-4,10,23-trimethyl-spiro[6,16-(epithiopropanoxymethano)-7,13-imino-12H-1,3-dioxolo[7,8]isoquino[3,2-b][3]benzazocine-20,1′-[1H]pyrido[3,4-b]indol]-19-one
Synonym:	PM01183
MF:	$C_{41}H_{44}N_4O_{10}S$
FW:	784.9
Purity:	≥98%
Supplied as:	A solid
Storage:	-20°C
Stability:	≥4 years

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

Laboratory Procedures

Lurbinectedin is supplied as a solid. A stock solution may be made by dissolving the lurbinectedin in the solvent of choice, which should be purged with an inert gas. Lurbinectedin is sparingly soluble (1-10 mg/ml) in chloroform and slightly soluble (0.1-1 mg/ml) in acetonitrile:water (1:1).

Description

Lurbinectedin is a DNA alkylating agent.[1] It induces DNA double-strand breaks (DSBs), cell cycle arrest at the S phase, and apoptosis in A549 lung cancer cells. Lurbinectedin is cytotoxic against a panel of 24 cancer cell lines with a mean GI_{50} value of 2.7 nM. It increases the levels of cyclic GMP-AMP (cGAMP) synthase (cGAS) and phosphorylated STING, TANK-binding kinase 1 (TBK1), and IFN regulatory factor 3 (IRF3) in PB115, DMS 114, NCI H446, and NCI H196 lung cancer cells when used at a concentration of 10 nM.[2] Lurbinectedin (0.18 mg/kg) decreases tumor weight in NCI H460 lung, A2780 ovarian, HT-29 colon, and HGC-27 gastric cancer mouse xenograft models.[1] It also decreases tumor volume when used in combination with an antibody targeting programmed cell death 1 ligand 1 (PD-L1) in an immunocompetent genetically engineered mouse model of small cell lung cancer (SCLC).[2] Formulations containing lurbinectedin have been used in the treatment of metastatic SCLC.

References

1. Leal, J.F., Martínez-Díez, M., García-Hernández, V., *et al*. PM01183, a new DNA minor groove covalent binder with potent *in vitro* and *in vivo* anti-tumour activity. *Br. J. Pharmacol.* **161(5)**, 1099-1100 (2010).
2. Chakraborty, S., Sen, U., Ventura, K., *et al*. Lurbinectedin sensitizes PD-L1 blockade therapy by activating STING-IFN signaling in small-cell lung cancer. *Cell Rep. Med*. **5(12)**, 101852 (2024).

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