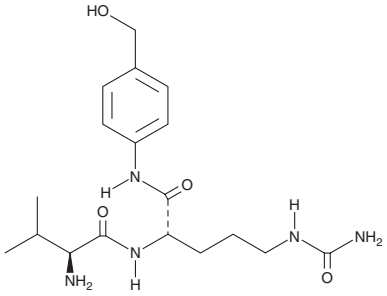
PRODUCT INFORMATION

Val-Cit-PAB-OH

Item No. 34818

CAS Registry No.:	159857-79-1
Formal Name:	L-valyl-N^5-(aminocarbonyl)-N-[4-(hydroxymethyl)phenyl]-L-ornithinamide
Synonyms:	Valine-Citrulline-*p*-Aminobenzylcarbamate, VC-PAB
MF:	$C_{18}H_{29}N_5O_4$
FW:	379.5
Purity:	≥98%
UV/Vis.:	λ_{max}: 246 nm
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

Val-Cit-PAB-OH is supplied as a solid. A stock solution may be made by dissolving the Val-Cit-PAB-OH in the solvent of choice, which should be purged with an inert gas. Val-Cit-PAB-OH is soluble in organic solvents such as DMSO and dimethyl formamide (DMF). The solubility of Val-Cit-PAB-OH in these solvents is approximately 10 mg/ml.

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 Val-Cit-PAB-OH can be prepared by directly dissolving the solid in aqueous buffers. The solubility of Val-Cit-PAB-OH in PBS (pH 7.2) is approximately 1 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Val-Cit-PAB-OH is a peptide linker molecule used in the synthesis of drug conjugates.[1-5] It is cleaved by cathepsin B, a protease highly expressed in cancer cells, which confers specificity of the drug conjugates to cancer cells.[2] Val-Cit-PAB-OH has been used in the synthesis of antibody-drug conjugates (ADCs) containing the tubulin polymerization inhibitors KGP05 or monomethyl auristatin D (MMAD), as well as α-galactosylceramide or folic acid conjugates that target peptide antigens to natural killer T cells or exportin 1 (CRM1) inhibitors to cancer cells, respectively.[1,3,4,5] It has also been used as a precursor in the synthesis of Mc-Val-Cit-PABC-PNP (Item No. 23881).[1]

References

1. Mondal, D., Ford, J., and Pinney, K.G. *Tetrahedron Lett.* **59(40)**, 3594-3599 (2018).
2. Dubowchik, G.M., Firestone, R.A., Padilla, L., *et al. Bioconjug. Chem.* **13(4)**, 855-869 (2002).
3. Dorywalksa, M., Strop, P., Melton-Witt, J.A., *et al. Bioconjug. Chem.* **26(4)**, 650-659 (2015).
4. Anderson, R.J., Li, J., Kedzierski, L., *et al. ACS Chem. Biol.* **12(11)**, 2898-2905 (2017).
5. Klahn, P., Fetz, V., Ritter, A., *et al. Chem. Sci.* **10(20)**, 5197-5210 (2019).

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