N-Acetyl-Calicheamicin

Cat. No.: HY-19791

CAS No.: 108212-76-6

Molecular Formula: $C_{57}H_{76}IN_3O_{22}S_4$

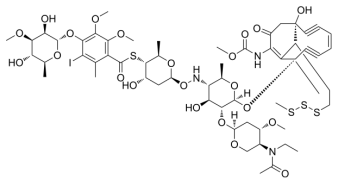
Molecular Weight: 1410.39

Target: Bacterial; Antibiotic; ADC Cytotoxin; DNA/RNA Synthesis

Pathway: Anti-infection; Antibody-drug Conjugate/ADC Related; Cell Cycle/DNA Damage

Storage: 4°C, sealed storage, away from moisture

* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (70.90 mM; Need ultrasonic)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	0.7090 mL	3.5451 mL	7.0902 mL
	5 mM	0.1418 mL	0.7090 mL	1.4180 mL
	10 mM	0.0709 mL	0.3545 mL	0.7090 mL

Please refer to the solubility information to select the appropriate solvent.

BIOLOGICAL ACTIVITY

Description

N-Acetyl-Calicheamicin (N-Acetyl-Calicheamicin γ), an enediyne anti-tumor antibiotic, is an ADC cytotoxin. N-Acetyl-Calicheamicin can induce DNA damage, and can be used in the synthesis of ADC[1].

In Vitro

N-Acetyl-Calicheamicin is a click chemistry reagent, it contains an Alkyne group and can undergo copper-catalyzed azide-alkyne cycloaddition (CuAAc) with molecules containing Azide groups[1]

Once the ADC is internalized and degraded in the lysosome, the potent calicheamicin derivative, N-Acetyl-Calicheamicin (N-Acetyl-Calicheamicin γ), is then activated by reduction of the dimethyl disulfide trigger in the cytosol to form the potent enediyne diradical capable of inducing DNA strand breaks[2]

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Breanna S Vollmar, et al. Calicheamicin Antibody-Drug Conjugates with Improved Properties. Mol Cancer Ther. 2021 Jun;20(6):1112-1120.

[2]. K C Nicolaou, et al. Uncialamycin-based antibody-drug conjugates: Unique enediyne ADCs exhibiting bystander killing effect. Proc Natl Acad Sci U S A. 2021 Jun

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