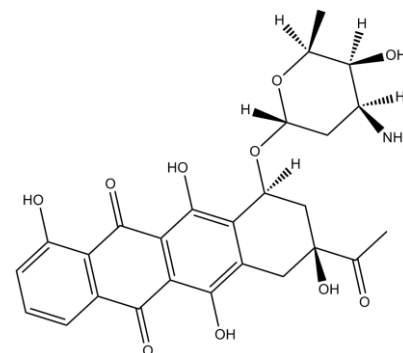


## Product Data Sheet

### Chemical Properties

|                      |  |
|----------------------|--|
| <b>Product Name:</b> | Carminomycin                                     |
| <b>Cas No.:</b>      | 50935-04-1,39472-31-6                            |
| <b>M.Wt:</b>         | 513.49   |
| <b>Formula:</b>      | C <sub>26</sub> H <sub>27</sub> NO <sub>10</sub> |



|                       |   |
|-----------------------|---|
| <b>Chemical Name:</b> | (8S,10S)-8-acetyl-10-(((2R,4S,5S,6S)-4-amino-5-hydroxy-6-methyltetrahydro-2H-pyran-2-yl)oxy)-1,6,8,11-tetrahydroxy-7,8,9,10-tetrahydro-7,8,9,10-tetrahydro-5,12-dione |
|-----------------------|---|

|                          |   |
|--------------------------|---|
| <b>Canonical SMILES:</b> | <chem>CC[C@@]1([H])[C@](O)([H])[C@](N)([H])C[C@@](O[C@@]2([H])C[C@@](C(C)=O)(O)CC(C2=C3O)=C(O)C4=C3C(C5=C(C4=O)C=CC=C5O)=O)([H])O1</chem> |
|--------------------------|---|

|                    |                 |
|--------------------|-----------------|
| <b>Solubility:</b> | Soluble in DMSO |
|--------------------|-----------------|

|                 |                |
|-----------------|----------------|
| <b>Storage:</b> | Store at -20°C |
|-----------------|----------------|

|                      |  |
|----------------------|--|
| <b>General tips:</b> | For obtaining a higher solubility , please warm the tube at 37 ° C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20 ° C for several months. |
|----------------------|--|

|                            |  |
|----------------------------|--|
| <b>Shopping Condition:</b> | Evaluation sample solution : ship with blue ice<br>All other available size: ship with RT , or blue ice upon request |
|----------------------------|--|

### Biological Activity

|                  |                         |
|------------------|-------------------------|
| <b>Targets :</b> | Microbiology & Virology |
|------------------|-------------------------|

|                  |            |
|------------------|------------|
| <b>Pathways:</b> | Antibiotic |
|------------------|------------|

#### Description:

Carminomycin is a new antitumor antibiotic [1].

Antibiotics are a type of antimicrobial used in the treatment of bacterial infection. They can inhibit the growth of bacteria. Antitumor antibiotics are effective agents widely used in cancer

chemotherapy [2].

Carminomycin is a new antitumor antibiotic isolated from the mycelium of *Actinomadura carminata* containing seven components, five of which are biologically active. The more interesting components are components 1, 2 and 3 [1]. In human MCF-7 breast carcinoma and human K562 leukemia cell lines, carminomycin inhibited cell growth with IC50 values of 90 and 60 nM, respectively. In Pgp-expressing MCF-7Dox and K562i/S9 cell lines, carminomycin inhibited cell growth with a similar activity compared with wild type cells, which suggested that carminomycin could circumvent Pgp-mediated multidrug resistant (MDR) [2]. In *Micrococcus luteus* cells, carminomycin induced one-thread breaks in DNA. In mutant strain DB-7 of *M. luteus*, carminomycin was more difficult to induce the one-thread breaks, suggesting that UV-endonuclease was probably involved in reparation of the DNA damages induced by carminomycin [3].

In DBA/2 mice with leukemia L-1210, carminomycin (1.5 mg/kg) inhibited the lymphoma colonies by 50% [4].

### **Reference:**

[1]. Brazhnikova MG, Zbarsky VB, Ponomarenko VI, et al. Physical and chemical characteristics and structure of carminomycin, a new antitumor antibiotic. *J Antibiot (Tokyo)*, 1974, 27(4): 254-259.

[2]. Tevyashova AN, Shtil AA, Olsufyeva EN, et al. Carminomycin, 14-hydroxycarminomycin and its novel carbohydrate derivatives potently kill human tumor cells and their multidrug resistant variants. *J Antibiot (Tokyo)*, 2004, 57(2): 143-150.

[3]. Trenin AS. Carminomycin induction of single-stranded DNA breaks in *Micrococcus luteus* cells. *Antibiotiki*, 1979, 24(11): 841-846.

[4]. Berezina TA, Uteshev BS. Comparative characteristics of the antitumor and immunodepressive activity of carminomycin on the L-1210 experimental model. *Antibiotiki*, 1979, 24(10): 767-771.

## **Caution**

**FOR RESEARCH PURPOSES ONLY.**

**NOT FOR HUMAN, VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.**

*Specific storage and handling information for each product is indicated on the product datasheet. Most ApexBio products are stable under the recommended conditions. Products are sometimes shipped at a temperature that differs from the recommended storage temperature. Short-term storage of many products are stable in the short-term at temperatures that differ from that required for long-term storage. We ensure that the product is shipped under conditions that will maintain the quality of the reagents. Upon receipt of the product, follow the storage recommendations on the product data sheet.*

[www.apexbt.com](http://www.apexbt.com)

7505 Fannin street, Suite 410, Houston, TX 77054.

Tel: +1-832-696-8203 | Fax: +1-832-641-3177 | Email: [info@apexbt.com](mailto:info@apexbt.com)