**Product Data Sheet**

### Chemical Properties

- **Product Name:** DOXO-EMCH
- **Cas No.:** 151038-96-9
- **M.Wt:** 750.75
- **Formula:** C37H42N4O13
- **Synonyms:** INNO-206; Doxorubicin-EMCH; INNO 206

**Chemical Name:**

N-[(Z)-1-[(2S,4S)-4-[(2R,4S,5S,6S)-4-amino-5-hydroxy-6-methyloxan-2-yl]oxy-2,5,12-trihydroxy-7-methoxy-6,11-dioxo-3,4-dihydro-1H-tet racen-2-yl]-2-hydroxyethylidene]amino]-6-(2,5-dioxopyrrol-1-yl)hexa namide

- **Canonical SMILES:**

```
CC1C(C(CC(O1)OC2CC(CC3=C(C4=C(C=C23)O)C(=O)C5=C(C4=O)C=C
C=C5OC)O)(C(=NNC(=O)CCCCCN6C(=O)C=CC6=O)(CO)O)N)O
```

- **Solubility:** Soluble in DMSO
- **Storage:** Store at -20°C
- **General tips:** 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.

**Shopping Condition:**

- **Evaluation sample solution:** ship with blue ice
- **All other available size:** ship with RT, or blue ice upon request

### Biological Activity

- **Targets:** DNA Damage/DNA Repair
- **Pathways:** Topoisomerase

**Description:**

The (6-maleimidocaproyl) hydrazone derivative of doxorubicin (INNO-206), formerly known as DOXO-EMCH, is a prodrug of the anticancer agent doxorubicin which selectively binds to the
cys34 of circulating albumin and accumulates in solid tumors due to passive targeting[1]. INNO-206 shows significantly superior antitumor efficacy over free doxorubicin in a spectrum of preclinical tumor models [2].

In vivo: In a murine renal cell carcinoma model and in breast carcinoma xenograft models, INNO-206 has shown superior activity over doxorubicin. INNO-206 has shown more potent antitumor efficacy than free doxorubicin in the tumor models and is thus a promising clinical candidate for treating a broad range of solid tumors [2]. Clinical trials: In a phase I study, INNO-206 showed a good safety profile at doses up to 260 mg/m² doxorubicin equivalents. INNO-206 was able to induce tumor regressions in breast cancer, small cell lung cancer and sarcoma. [1].

Reference:

Protocol

Cell experiment:

Cell lines Human multiple myeloma cell lines RPMI8226 and U266

Preparation method Soluble in DMSO. General tips for obtaining a higher concentration: Please warm the tube at 37 ℃ for 10 minutes and/or shake it in the ultrasonic bath for a while. Stock solution can be stored below -20 ℃ for several months.

Reacting conditions

Applications INNO-206 inhibited blood vessel formation and reduced multiple myeloma cell growth in a pH-dependent fashion. In RPMI8226 cells, INNO-206 decreased cell viability in concentration-and pH-dependent manner. At pH 5, INNO-206 (≥0.54 mmol/L) essentially eliminated cell viability. In the MM1S cell line, INNO-206 inhibited cell growth in concentration and pH-dependent manner.

Animal experiment [3]:
Animal models: Mice bearing the LAGk-1A tumor, multiple myeloma xenograft (LAGk-2) mouse model

Dosage form: Intravenous injection, 10.8 mg/kg; 3 times weekly at 1.8 mg/kg; once weekly at 5.4 mg/kg

Applications: In mice bearing the LAGk-1A tumor, INNO-206 (10.8 mg/kg, once weekly, i.v.) showed significantly smaller tumor volumes and IgG levels on days 28, 35 and 42. In LAGk-2–bearing mice, treatment with INNO-206 (i.v. 3 times weekly at 1.8 mg/kg) significantly reduced tumor volume. INNO-206 (once weekly, 5.4 mg/kg) showed significantly smaller tumor volumes.

Other notes: Please test the solubility of all compounds indoor, and the actual solubility may slightly differ with the theoretical value. This is caused by an experimental system error and it is normal.

Reference:

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.