

Product Data Sheet

Product Name: PrCP-7414

Cat. No.: GC79578

Chemical Properties

Cas. No. 1252037-41-4

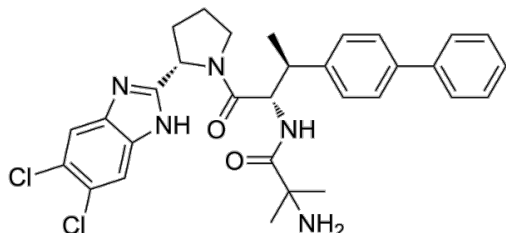
Formula $C_{31}H_{33}Cl_2N_5O_2$ M.Wt 578.53

Solubility DMSO: 100 mg/mL (172.85 mM; Need ultrasonic) 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.

Shipping Condition Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.

Structure



Background

PrCP-7414 is a prolyl carboxypeptidase (PRCP) inhibitor. PrCP-7414 blocks PRCP -mediated activation of the IGF1R / HER3 signaling pathway and subsequent AKT activation. PrCP-7414 exhibits pro-apoptotic, anti-tumor and synergistic cytotoxic activities, and inhibits the proliferation and survival of triple-negative breast cancer cells. PrCP-7414 can be used for the research of breast cancer [1] [2].

Caution: Product has not been fully validated for medical applications. For research use only.

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In Vivo, PRCP-7414 (20 mg/kg, i.p., 5 days per week for 5 consecutive weeks) slows tumor growth in ER+ breast cancer PDX models in NSG mice, reduces the activation level of intratumoral AKT, and exerts a synergistic effect with Endoxifen to induce significant tumor regression^[1]. PRCP-7414 (40 mg/kg; i.p.; 5 days per week; 51 days) inhibits the growth of triple-negative breast tumors in NOD SCID mice^[2].

In Vitro, PRCP-7414 (5 μ M; 72 h) inhibits the IGF1R/HER3-AKT signaling pathway in B6-9 breast cancer cells, enhances Endoxifen -induced cell death in both MCF7 and B6-9 breast cancer cells, and reduces their colony-forming ability^[1]. PRCP-7414 (5 μ M; 3 days) enhances the proliferation-inhibiting effect of Endoxifen on MCF7 and TRC breast cancer cells, as well as the cell death-inducing effect of Endoxifen on TRC breast cancer cells^[1]. PrCP-7414 (1-10 μ M; 3 days) reduces the viability of MCF7, BT549, MDA468, BT20, MDA231, Hs578T and SUM159PT breast cancer cells in a dose-dependent manner^[2]. PrCP-7414 inhibits AKT activation downstream of EGFR, ErbB3, IGF1R and PDGFR in MDA468 and SUM159PT triple-negative breast cancer (TNBC) cells^[2]. PrCP-7414 (5 μ M-10 μ M; 3 days) induces apoptosis in various triple-negative breast cancer (TNBC) cell lines^[2]. PrCP-7414 (0-7.5 μ M; 3 days) synergistically induces apoptosis of MDA468 and BT549 triple-negative breast cancer (TNBC) cells in combination with 2 μ M Lapatinib ^[2].

References:

- [1]. Duan L, et al. Prolylcarboxypeptidase promotes IGF1R/HER3 signaling and is a potential target to improve endocrine therapy response in estrogen receptor positive breast cancer. *Cancer Biol Ther.* 2022;23(1):1-10.
- [2]. Duan L, et al. Prolyl Carboxypeptidase Maintains Receptor Tyrosine Kinase Signaling and Is a Potential Therapeutic Target in Triple Negative Breast Cancer. *Cancers (Basel).* 2022;14(3):739. Published 2022 Jan 31.

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