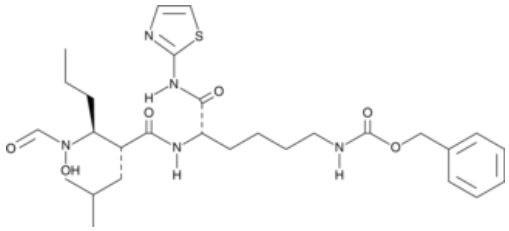
Product Data Sheet

Product Name: GW 280264X
Cat. No.: GC48421

Chemical Properties

Cas. No.	866924-39-2		
SMILES	O=CN(O)[C@@H](CCC)[C@@H](CC(C)C)C(N[C@@H](CCCCNC(OCC1=CC=CC=C1)=O)C(NC2=NC=CS2)=O)=O		
Formula	C28H41N5O6S	M.Wt	575.7
Solubility	DMSO: soluble	Storage	-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



Protocol

Cell experiment [1]:	
Cell lines	RAW264.7 cells
Preparation Method	RAW264.7 cells were cultured in DMEM medium, supplemented with 10% fetal bovine serum, 1% penicillin-streptomycin, at 37°C in an incubator with 5% CO_2. RAW264.7 cells were preincubated with 200nM GW 280264X for 24h before radiation treatment, RAW264.7 cells were exposed to 5-Gy x-ray irradiation, cells and supernatants were collected for analysis.

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Reaction Conditions	200nM; 24h
Applications	GW 280264X treatment markedly enhanced X-ray irradiation-induced cell viability and reduced levels of IL-6, IL-1β and TNF-α in RAW264.7 cells.
Animal experiment [2]:	
Animal models	C57BL/6 mice
Preparation Method	C57BL/6 mice (8 weeks old) were housed in specific pathogen-free conditions and fed standard mouse chow and water ad libitum. For the imiquimod-induced mouse model, a 4.0-cm^2 area on the backs of C57BL/6 mice was shaved and treated with 62mg of imiquimod cream (5%) for 5 consecutive days. Control mice were treated with vehicle cream. GW 280264X was administered intraperitoneally at a dose of 0.1mg/kg/day for 6 consecutive days, starting the day before imiquimod induction. The healthy control and psoriasis skin tissue samples were collected for analysis.
Dosage form	0.1mg/kg/day; 6 days; i.p.
Applications	GW 280264X treatment alleviated imiquimod-induced psoriasis-like phenotypes in mice.

References:[1] Chen Z, Cai S, Li P, et al. TREM2 deficiency regulates macrophage apoptosis and repair in radiation-induced skin injury[J]. Research, 2025, 8: 1018.[2] Yu Z, Tang X, Chen Z, et al. Role of ADAM10/17-Mediated cleavage of LAG3 in the impairment of immunosuppression in psoriasis[J]. Journal of Investigative Dermatology, 2025, 145(6): 1385-1395. e8.

Background

GW 280264X is a potent inhibitor of Tumor necrosis factor α converting enzyme (TACE) and

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GW 280264X is a potent inhibitor of Tumor necrosis factor-α-converting enzyme (TACE) and ADAM10, with IC_{50} values of 8.0nM and 11.5nM, respectively [1]. GW 280264X regulates the RHBDF2-ADAM17-TNF-α axis, thereby reducing the protein levels of Rhbdf2, Adam17 and TNF-α in the brain tissue, and alleviating the severity of colitis and blood-brain barrier damage in the animal model[2]. GW 280264X has been widely used in tumor research to inhibit the growth of various types of cancer cells[3].

In vitro, GW 280264X treatment (5μM) for 1 hour led to a decrease in the endogenous soluble apoptosis-inducing Fas ligand (sFasL) release in T cells[4]. Treatment with 200nM GW 280264X for 24 hours increased the cell viability of RAW264.7 cells after 5Gy X-ray irradiation, and decreased the levels of IL-6, IL-1β and TNF-α[5].

In vivo, GW 280264X treatment via intraperitoneal injection at a dose of 3μg every three days for 3 consecutive weeks inhibited lung metastasis of breast cancer in MMTV-PyMT mice and reduced serum levels of JAM-A, CD138, and sE-cadherin[6]. Intraperitoneal injection of GW 280264X (500μg/kg) at 1 hour and 3 hours after lipopolysaccharide (LPS) injection attenuated LPS-induced hepatic inflammation, oxidative stress, and endoplasmic reticulum stress responses, and improved liver histopathology in mice[7]. Continuous intraperitoneal injection of GW 280264X at a dose of 0.1mg/kg/day for 6 consecutive days alleviated imiquimod-induced psoriasis-like phenotypes in mice, increased LAG3 expression, and decreased ADAM10 and ADAM17 expression[8].

References:
[1] Hundhausen C, Misztela D, Berkhout T A, et al. The disintegrin-like metalloproteinase ADAM10 is involved in constitutive cleavage of CX3CL1 (fractalkine) and regulates CX3CL1-mediated cell-cell adhesion[J]. Blood, 2003, 102(4): 1186-1195.
[2] Cheng J, Xu A. Multi-Cohort Meta-Analysis, Single-Cell and Mendelian Randomization Analyses with Experimental Validation Identify RHBDF2 as a Shared Mediator of Ulcerative Colitis and Blood–Brain Barrier Disruption[J]. Frontiers in Synaptic Neuroscience, 2026, 18: 1970578.
[3] Mullooly M, McGowan P M, Sukor S U, et al. ADAMs as new therapeutic targets for triple-negative breast cancer[J]. Journal of Clinical Oncology, 2011, 29(15_suppl): 1062-1062.
[4] Schulte M, Reiss K, Lettau M, et al. ADAM10 regulates FasL cell surface expression and modulates FasL-induced cytotoxicity and activation-induced cell death[J]. Cell Death & Differentiation, 2007, 14(5): 1040-1049.

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[5] Chen Z, Cai S, Li P, et al. TREM2 deficiency regulates macrophage apoptosis and repair in radiation-induced skin injury[J]. Research, 2025, 8: 1018.
[6] Liu Z, Choksi S, Kwon H J, et al. Tumor necroptosis-mediated shedding of cell surface proteins promotes metastasis of breast cancer by suppressing anti-tumor immunity[J]. Breast cancer research, 2023, 25(1): 10.
[7] Huner Yigit M, Okcu O, Atak M, et al. Modulation of Oxidative and ER Stress Pathways by the ADAM17 Inhibitor GW280264X in LPS-Induced Acute Liver Injury[J]. Life, 2025, 15(12): 1877.
[8] Yu Z, Tang X, Chen Z, et al. Role of ADAM10/17-Mediated cleavage of LAG3 in the impairment of immunosuppression in psoriasis[J]. Journal of Investigative Dermatology, 2025, 145(6): 1385-1395. e8.

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