Product Datasheet

JW 480

Catalog No. **BP-02441** · CAS **1354359-53-7** · Form **free base** · Physical state **solid** · Color **White to off-white** · Version **1.0** · Revision **2026-09-11**

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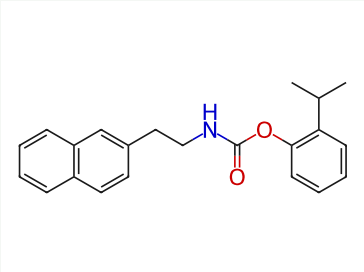
Target	Research area
Ser/Thr Protease; Calcium Channel; PKC	**Cancer**

Molecular formula	$C_{22}H_{23}NO_2$
Molecular weight	**333.4235**

STRUCTURE



DESCRIPTION

JW480 is a selective KIAA1363/AADACL1 inhibitor with oral activity, featuring IC50 values of 12 nM against human KIAA1363, 20 nM against mouse KIAA1363. JW480 blocks lipid deacetylase activity to restrain HAG metabolism and lowers retinyl ester hydrolase function in hepatic stellate cells. JW480 reduces MAGE lipid levels and inhibits migration, invasion, survival and tumor growth of prostate cancer cells. JW480 lowers PKCδ phosphorylation, facilitates HAGP accumulation, diminishes platelet aggregation, dense granule secretion and Ca 2+ flux, delays arterial thrombosis and prolongs tail bleeding time in rats. JW480 can be used for the study of prostate cancer and thrombosis .

BIOLOGICAL ACTIVITY

In Vitro

JW480 (0.001-10 μM) potently and selectively inhibits KIAA1363 with an IC50 of 0.02 μM in mouse brain membrane proteomes and an in situ IC50 of 0.006 μM in living PC3 cells, with sustained inhibition.

JW480 (0.001-50 μM) potently and selectively inhibits KIAA1363 in PC3 prostate cancer cell proteomes in vitro with an IC50 of 0.012 μM.

JW480 (1 μM; 48 hr) selectively and exclusively inhibits KIAA1363 in situ–treated PC3 prostate cancer cells. It fully abolishes KIAA1363-dependent 2-acetyl MAGE hydrolysis and markedly reduces C16:0, C18:0, and C18:1 MAGE lipid levels in both PC3 and DU144 prostate cancer cells.

JW480 (1 μM; 48 hr) impairs cell migration and invasion in PC3 prostate cancer cells treated in situ.

JW480 (1 μM; 48 hr) impairs cell survival in serum-free media over 4 days in PC3 prostate cancer cells treated in situ.

JW480 (10 μM, 1 h) markedly suppresses the in vitro retinyl ester (RE) hydrolase activity of recombinant mouse and human KIAA1363 in Expi293FTM cell lysates by 90% and 86%, respectively, and abolishes RE hydrolase activity across all subcellular fractions of mKIAA1363-expressing Expi293FTM cells..

JW480 (10 μM; 1 h) reduces in vitro RE hydrolase activity by 20% in whole mouse liver lysates and by 60% in primary mouse HSC lysates, with no effect on primary mouse hepatocyte lysates.

JW480 (10 μM; 1 h) potently inhibits in vitro RE hydrolase activity, reducing activity by 80% in human LX-2 HSC lysates and by 92% in primary human HSC lysates.

JW480 (10 μM, 8 h) significantly suppresses RE degradation in HSCs, blunting RP breakdown in primary mouse HSCs, blocking RE degradation entirely in human LX-2 cells, and lifting RP levels by 4-fold in primary human HSCs.

JW480 elevates HAGP levels in collagen-stimulated human platelets, inhibits collagen-induced platelet aggregation (rescued by ADP), and reduces dense granule ATP secretion by 45% in washed human platelets.

JW480 (2-10 μM) dose-dependently inhibits collagen-induced PKCδT505 phosphorylation in human platelets, with no effect on PKCθT538 phosphorylation.
In Vivo
JW480 (80 mg/kg; p.o.; daily; 33 days) significantly impairs PC3 prostate cancer xenograft growth in SCID mice and completely ablates KIAA1363 activity in explanted tumors[1].

JW480 (1-80 mg/kg; i.p.; single dose; 5-80 mg/kg; p.o.; single dose) potently and selectively inhibits brain KIAA1363 in mice via both intraperitoneal and oral routes.

JW480 (40 mg/kg; i.v.; single dose over 5 minutes) administered to 3.5 to 5 week-old Sprague Dawley rats significantly delays median time to FeCl3-induced carotid artery occlusion to 14.8 minutes.

JW480 (3.5-10 mg/kg; i.v.; single dose over 5 minutes) administered to adult (≥6 months old) Sprague Dawley rats significantly increases median tail bleeding time to 30.0 minutes.

JW480 (8-11 mg/kg; i.v.; single dose) administered to adult (>6 months old) Sprague Dawley rats significantly inhibits convulxin-induced circulating platelet aggregation.

SOLUBILITY

Soluble in DMSO : 100 mg/mL

REFERENCES

[1].Chang JW, et al. A potent and selective inhibitor of KIAA1363/AADACL1 that impairs prostate cancer pathogenesis. Chem Biol. 2011;18(4):476-484.

[2].Wagner C, et al. KIAA1363 affects retinyl ester turnover in cultured murine and human hepatic stellate cells. J Lipid Res. 2022;63(3):100173.

[3].Holly SP, et al. Ether lipid metabolism by AADACL1 regulates platelet function and thrombosis. Blood Adv. 2019;3(22):3818-3828.

Tel: +86 20 31130026 · Fax: +86 20 36822386 · tech@biochemprobe.com · www.biochemprobe.com