For Research Use Only

WP1066

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Catalog Number: CM04913

产品信息

Catalog Number:
CM04913

CAS号:
857064-38-1

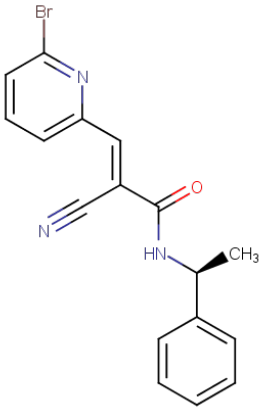
分子式:
$C_{17}H_{14}BrN_3O$

主要靶点:
Apoptosis|JAK|STAT

主要通路:
凋亡|JAK/STAT信号通路|血管生成|干细胞|表观遗传

分子量:
356.22

溶解度:
DMSO:66 mg/mL (185.3 mM),Ethanol:<1 mg/mL



靶点活性

JAK2:2.3 μM|STAT3:2.43 μM

体外活性

WP1066能剂量依赖性地显著抑制携带JAK2 V617F突变亚型的HEL细胞的生长（IC20/IC50/IC80：0.8/2.3/3.8 μM）。在表达JAK2 V617F突变亚型的急性白血病HEL细胞中,WP1066（0.5-4.0 μM）可抑制JAK2, STAT3, STAT5及ERK1/2的磷酸化,但对JAK1和JAK3的磷酸化无抑制作用。WP1066（0.5-3.0 μM）,以剂量依赖性地抑制从病人体内获得的AML形细胞以及AML细胞系OCIM2和K562的增殖。浓度在0.5, 1.0, 2.0, 3.0或4.0 μM时的WP1066在OCIM2和K562细胞中,剂量依赖地降低JAK2和pJAK2的蛋白水平,同时STAT3,STAT5和AKT的磷酸化水平。WP1066（1,2或3 μM）可激活procaspase-3,裂开的PARP,剂量依赖地引起OCIM2和K562细胞的细胞凋亡。通过诱导处在细胞周期G0-G1期细胞的积累,WP1066（2 μM）可抑制OCIM2细胞增加。WP1066（5 μM）可阻止STAT3磷酸化,2.5 μM时能使Caki-1和 786-O肾癌细胞的生存和增殖受到显著抑制。 WP1066（5 μM）还能抑制Caki-1和786-O肾癌细胞中HIF1α和HIF2α的表达及VEGF的产生。

体内活性

在Caki-1移植小鼠中,连续服用19天WP1066（40 mg/kg/day,p.o.）可显著抑制的肿瘤生长,同时减少磷酸化的STAT3免疫染色,并降低CD34阳性血管长度.

细胞实验

The 3, [4,5-dimethylthiazol-2-yl]-5-[3-carboxymethoxyphenyl]-2-[4-sulfophenyl]-2H-tetrazolium (MTT) assay is done using an MTT-based cell proliferation/cytotoxicity assay system. Briefly, fresh low-density peripheral blood cells and various cell lines at the logarithmic phase of their growth are washed twice in RPMI 1640 containing 10% FCS and counted in a hemocytometer. Cell viability is assessed by the trypan blue (0.1%) staining method. Equal numbers of viable cells (5 × 104 per well) are incubated in a total volume of 100 μL of RPMI 1640 supplemented with 10% FCS alone or with WP1066 at increasing concentrations; the incubations are continued for up to 72 h in 96-well flat-bottomed plates at 37 °C in a humidified 5% CO2 atmosphere. Experiments for each condition are done in triplicate. After incubation, 20 μL of CellTiter96 One Solution Reagent are added to each well. The plates are then incubated for an additional 60 min at 37 °C in a humidified 5% CO2 atmosphere. Immediately after incubation, absorbance is read using a 96-well plate reader at a wavelength of 490 nm.(Only for Reference)

描述

WP1066 is a inhibitor of JAK2 (IC50: 2.30 μM) and STAT3 (IC50: 2.43 μM) in HEL cells; shows activity to JAK2, STAT3/5, and ERK1/2, not JAK1 and JAK3. WP1066 has been used in trials studying the treatment of Melanoma, Brain Cancer, Solid Tumors, and Central Nervous System Neoplasms.

储存

Powder: -20°C for 3 years | In solvent: -80°C for 1 year