

Catalog Number: CM06555

产品信息

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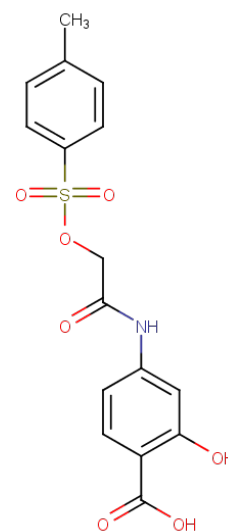
CAS号:
501919-59-1

分子式:
C₁₆H₁₅NO₇S

主要靶点:
STAT

主要通路:
JAK/STAT 信号通路|干细胞

分子量:
365.36

溶解度:
DMSO:40 mg/mL (109.48 mM)


靶点活性

STAT3:86 nM (cell free)

体外活性

S3I-201抑制Stat3和Stat3复合体的形成以及Stat3的DNA结合和转录活性。此外，S3I-201主要在含有持续活化Stat3的肿瘤细胞中抑制生长并诱导凋亡。构成性二聚和活性Stat3C以及Stat3 SH2结构域可使肿瘤细胞免受S3I-201引起的凋亡[1]。在p53(null)CD45.1小鼠的CD4 T细胞中，先用不同浓度的S3I-201预处理，可以在添加IL-6后最早15分钟抑制STAT3的磷酸化，呈剂量依赖性。根据STAT3磷酸化抑制水平，确定此抑制剂的IC₅₀为38 μM [2]。虽然这些细胞系对单独使用S3I-201 (S3I-201) 不敏感，但S3I-201增强了所有三个细胞系 (HepG2、SK-HEP1和Huh-7细胞) 对cetuximab的抗增殖效果[3]。

体内活性

与对照组瘤体相比，接受S3I-201治疗的小鼠中的人类乳腺癌瘤显示出强烈的生长抑制作用。与对照组瘤体相比，S3I-201处理的小鼠残留肿瘤组织中Stat3 DNA结合活性受到强烈抑制。使用PBS处理的同龄p53nullCD45.1小鼠作为对照组，对8至10周龄的p53nullCD45.1小鼠每周3次以5 mg/kg剂量治疗S3I-201。与PBS处理的小鼠相比，S3I-201处理的小鼠脾脏中的STAT3磷酸化显著降低。S3I-201减轻了大鼠异种移植模型中的生长激素分泌和腺垂体瘤生长。

动物实验

Six-week-old female athymic nude mice were purchased from Harlan and maintained in the institutional animal facilities approved by the American Association for Accreditation of Laboratory Animal Care. Athymic nude mice were injected in the left flank area s.c. with 5×10^6 human breast cancer MDA-MB-231 cells in 100 μl of PBS. After 5–10 days, tumors with a diameter of 3 mm were established. Animals were given S3I-201 i.v. at 5 mg/kg every 2 or 3 days for 2 weeks and monitored every 2 or 3 days. Animals were stratified so that the mean tumor sizes in all treatment were nearly identical. Tumor volume was calculated according to the formula $V = 0.52 \times a^2 \times b$, where a is the smallest superficial diameter and b is the largest superficial diameter [1].

细胞实验

Proliferating cells were treated with or without S3I-201 for up to 48 h. In some cases, cells were first transfected with Stat3C, ST3-NT, or ST3-SH2 domain or mock-transfected for 24 h before treatment with compound for an additional 24–48 h. Cells were then detached and analyzed by annexin V binding according to the manufacturer's protocol and flow cytometry to quantify the percent apoptosis [1].

储存

Powder: -20°C for 3 years | In solvent: -80°C for 1 year | Shipping with blue ice.