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产品名称：BAY 61-3606 (dihydrochloride)
产品别名：BAY 61-3606 dihydrochloride

生物活性：		
Description	BAY 61-3606 dihydrochloride is an orally available, ATP-competitive, reversible and highly selective Syk inhibitor with a Ki of 7.5 nM an IC50 of 10 nM[1]. BAY 61-3606 dihydrochloride reduces ERK1/2 and Akt phosphorylation in neuroblastoma cell[2]. BAY 61-3606 dihydrochloride induces a large decrease of Syk phosphorylation in K-rn cell lysates[3]. Bay 61-3606 dihydrochloride sensitizes TRAIL-induced apoptosis by downregulating Mcl-1 in breast cancer cells[4].	
IC_{50} & Target	Ki: 7.5 nM (Syk)[1] IC50: 10 nM (Syk)[1]	
In Vitro	BAY 61-3606 (0.01-10 μM ; 48 hours) significantly reduces the cell viability of SYK-positive SH-SY5Y and SYK-negative SK-N-BE cells in a dose-dependent matter. SH-SY5Y cells expressing high SYK levels are significantly more sensitive to BAY 61-3606 in comparison to SK-N-BEcells expressing very low or no SYK[2]. BAY 61-3606 (0.4 and 0.8 μM; 4 or 24 hours) inhibits SYK activity by reducing ERK1/2 and Akt phosphorylation in neuroblastoma cell SH-SY5Y[2]. BAY 61-3606 (2 μM; 2 hours) induces a large decrease of Syk phosphorylation in K-rn cell lysates[3].	
	Cell Viability Assay[2]	
	Cell Line:	SYK-positive SH-SY5Y and SYK-negative SK-N-BE cells
	Concentration:	0.01, 0.1, 1, and 10 μM
	Incubation Time:	48 hours
	Result:	Significantly reduced the cell viability of both cell lines in a dose-dependent matter.
	Cell Proliferation Assay[2]	
	Cell Line:	SH-SY5Y cells
	Concentration:	0.4 and 0.8 μM
	Incubation Time:	4 or 24 hours
	Result:	Reduced the phosphorylation of ERK1/2 and Akt after a 4 or 24 h treatment.
	Western Blot Analysis[3]	
	Cell Line:	K-rn cell lysates
	Concentration:	2 μM
	Incubation Time:	2 hours
	Result:	Induced a large decrease of Syk phosphorylation.
In Vivo	Bay 61-3606 (50 mg/kg; administered twice a week for two weeks by intraperitoneal injection) alone leads to more efficacious reductions than that of TNF-related apoptosis-inducing ligand (TRAIL; 10 mg/kg) alone in MCF-7 tumor xenograft-bearing BALB/c nude mice. Bay 61-3606 administered in TRAIL combination significantly reduces the volume of the xenografted tumor[4].	
	Animal Model:	Female BALB/c nude mice (5 weeks old) bearing MCF-7 tumor xenograft[4]
	Dosage:	50 mg/kg
	Administration:	Injected intraperitoneally twice a week with Bay 61–3606 (50 mg/kg), TRAIL (10 mg/kg) or a combination of Bay 61-3606 (50 mg/kg) and TRAIL (10 mg/kg); TRAIL

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<tr><td></td><td></td><td>was given 2 h after the injection of Bay 61-3606; for two weeks</td></tr>
<tr><td></td><td>Result:</td><td>Led to efficacious reductions in tumor growth.</td></tr>
<tr><td>Solvent&Solubility</td><td colspan="2">In Vitro:
DMSO : 7.14 mg/mL (15.41 mM; Need ultrasonic)
<table>
<tr><td rowspan="4">Preparing Stock Solutions</td><td>Solvent / Mass / Concentration</td><td>1 mg</td><td>5 mg</td><td>10 mg</td></tr>
<tr><td>1 mM</td><td>2.1583 mL</td><td>10.7917 mL</td><td>21.5834 mL</td></tr>
<tr><td>5 mM</td><td>0.4317 mL</td><td>2.1583 mL</td><td>4.3167 mL</td></tr>
<tr><td>10 mM</td><td>0.2158 mL</td><td>1.0792 mL</td><td>2.1583 mL</td></tr>
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*请根据产品在不同溶剂中的溶解度选择合适的溶剂配制储备液；一旦配成溶液，请分装保存，避免反复冻融造成的产品失效。
储备液的保存方式和期限：-80°C, 6 months; -20°C, 1 month。-80°C 储存时，请在 6 个月内使用，-20°C 储存时，请在 1 个月内使用。
In Vivo:
请根据您的实验动物和给药方式选择适当的溶解方案。以下溶解方案都请先按照 In Vitro 方式配制澄清的储备液，再依次添加助溶剂：
——为保证实验结果的可靠性，澄清的储备液可以根据储存条件，适当保存；体内实验的工作液，建议您现用现配，当天使用； 以下溶剂前显示的百分比是指该溶剂在您配制终溶液中的体积占比；如在配制过程中出现沉淀、析出现象，可以通过加热和/或超声的方式助溶
1.请依序添加每种溶剂： 10% DMSO→40% PEG300 →5% Tween-80 → 45% saline
Solubility: ≥ 0.71 mg/mL (1.53 mM); Clear solution
此方案可获得 ≥ 0.71 mg/mL (1.53 mM，饱和度未知) 的澄清溶液。
以 1 mL 工作液为例，取 100 μL 7.1 mg/mL 的澄清 DMSO 储备液加到 400 μL PEG300 中，混合均匀；向上述体系中加入 50 μL Tween-80，混合均匀；然后继续加入 450 μL 生理盐水定容至 1 mL。

2.请依序添加每种溶剂： 10% DMSO→ 90% (20% SBE-β-CD in saline)
Solubility: ≥ 0.71 mg/mL (1.53 mM); Clear solution
此方案可获得 ≥ 0.71 mg/mL (1.53 mM，饱和度未知) 的澄清溶液。
以 1 mL 工作液为例，取 100 μL 7.1 mg/mL 的澄清 DMSO 储备液加到 900 μL 20% 的 SBE-β-CD 生理盐水水溶液中，混合均匀。</td></tr>
<tr><td>References</td><td colspan="2">[1]. Yamamoto N, et al. The orally available spleen tyrosine kinase inhibitor 2-[7-(3,4-dimethoxyphenyl)-imidazo[1,2-c]pyrimidin-5-ylamino]nicotinamide dihydrochloride (BAY 61-3606) blocks antigen-induced airway inflammation in rodents. J Pharmacol Exp Ther. 2003 Sep;306(3):1174-81.
[2]. Tümmler C, et al. SYK Inhibition Potentiates the Effect of Chemotherapeutic Drugs on Neuroblastoma Cells in Vitro. Cancers (Basel). 2019 Feb 10;11(2). pii: E202.
[3]. Gioia R, et al. Quantitative phosphoproteomics revealed interplay between Syk and Lyn in the resistance to AMN107 in chronic myeloid leukemia cells. Blood. 2011 Aug 25;118(8):2211-21.
[4]. Kim SY, et al. Bay 61-3606 Sensitizes TRAIL-Induced Apoptosis by Downregulating Mcl-1 in Breast Cancer Cells. PLoS One. 2015 Dec 31;10(12):e0146073.</td></tr>
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