

产品名称: **PJ34 HCl**
 产品别名: **PJ34 hydrochloride**

生物活性:						
Description		PJ34 hydrochloride is an inhibitor of PARP1/2 with IC ₅₀ of 110 nM and 86 nM, respectively.				
IC ₅₀ & Target [1]	PARP	PARP-2	PARP-1			
	110 nM (IC ₅₀)	86 nM (IC ₅₀)	110 nM (IC ₅₀)			
In Vitro		PJ34 inhibits the PARP enzyme activity with an IC ₅₀ of 110±1.9 nM. To compare the neuroprotective properties of other PARP inhibitors in PC12 cells, PJ34 is evaluated using by LDH assay. PJ34 treatment also significantly and concentration dependently attenuates cell death at a concentration ranging from 10 ⁻⁷ to 10 ⁻⁵ M[1].				
In Vivo		To compare the potency and efficacy with other PARP inhibitors, PJ34 is evaluated at the doses of 3.2 and 10 mg/kg, respectively. PJ34 at the dose of 3.2 mg/kg significantly reduces cortical damage by 33%; however, 10 mg/kg dosing shows reversed effect (17% reduction)[1]. PJ34 (25 mg/kg) reduces the levels of TNF-α mRNA in ischemic animals by 70% and these values in treated mice do not differ from that of sham or naive animals. Treatment of ischemic mice with PJ34 reduces the level of E-selectin mRNA by 81% and that of ICAM-1 mRNA by 54%, compared to vehicle-treated ischemic mice[2].				
Solvent&Solubility		In Vitro: H ₂ O : ≥ 6 mg/mL (18.08 mM) * "≥" means soluble, but saturation unknown.				
		Preparing Stock Solutions	<div>Solvent / Mass Concentration</div>	1 mg	5 mg	10 mg
			1 mM	3.0139 mL	15.0693 mL	30.1386 mL
			5 mM	0.6028 mL	3.0139 mL	6.0277 mL
			10 mM	0.3014 mL	1.5069 mL	3.0139 mL
*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: 1.PJ34 hydrochloride is prepared in 0.1 mL of distilled water[3].						
References		<p>[1]. Iwashita A, et al. A novel and potent poly(ADP-ribose) polymerase-1 inhibitor, FR247304 (5-chloro-2-[3-(4-phenyl-3,6-dihydro-1(2H)-pyridinyl)propyl]-4(3H)-quinazolinone), attenuates neuronal damage in in vitro and in vivo models of cerebral ischemia. J Ph</p> <p>[2]. Haddad M, et al. Anti-inflammatory effects of PJ34, a poly(ADP-ribose) polymerase inhibitor, in transient focal cerebral ischemia in mice. Br J Pharmacol. 2006 Sep;149(1):23-30.</p> <p>[3]. Diani-Moore S, et al. NAD⁺ loss, a new player in AhR biology: prevention of thymus atrophy and hepatosteatosis by NAD⁺ repletion. Sci Rep. 2017 May 23;7(1):2268.</p>				
实验参考:						
		PC12 cell cultured are grown in Dulbecco's modified Eagle's medium supplemented with 5% (v/v) fetal calf serum, 5% (v/v) horse serum, and a 1% (v/v) penicillin-streptomycin antibiotics mixture. Cells are grown in an atmosphere of 95% air and 5% CO ₂ at 37°C. For all experiment, cells are				

Cell Assay	<p>seeded at a density of 4×10^4 cells/well in 96-well culture plates and allowed to attach overnight. For assessment of cell viability, hydrogen peroxide-induced cytotoxicity is quantified by a standard measurement of LDH release with the use of the LDH assay kit. Briefly, 6 h after hydrogen peroxide exposure, 20 μL of medium of each well is collected, and the solution prepared from LDH assay kit is added. After incubation at room temperature for 30 min, the reaction is stopped by addition of 1 N HCl, and absorbance is measured at 450 nm using a microplate reader. [1]</p>
Animal Administration	<p>Rats[1]</p> <p>For transient focal ischemia, 9- to 10-week-old male Wistar rats (weighing 274-380 g) are used. FR247304, PJ34, or 3-AB, which is suspended with 0.5% methylcellulose, is administered at doses of 10 and 32 mg/kg for FR247304, 3.2 and 10 mg/kg for PJ34, or 32 and 100 mg/kg for 3-AB intraperitoneally twice at 10 min before MCA occlusion and 10 min before recirculation. The administration volume is adjusted to 2 mL/kg.</p> <p>Mice[2]</p> <p>Male Swiss albino mice (27-32 g) are used. The PARP inhibitor, PJ34 (1.25, 12.5 or 25 mg/kg) is dissolved in isotonic saline (NaCl, 0.9%) and injected intraperitoneally, in a volume of 10 mL/kg, 15 min before ischemia and again 4 h after the onset of ischemia. Control ischemic mice and sham animals are given vehicle (saline). Naive animals are also included in the studies.</p>
Kinase Assay	<p>To assess the PARP-1 or PARP-2 inhibitory activity of FR247304, 3-AB, and PJ34, PARP activity is evaluated with minor modifications. PARP enzyme assay is carried out in a final volume of 100 μL consisting of 50 mM Tris-HCl (pH 8.0), 25 mM $MgCl_2$, 1 mM dithiothreitol, 10 μg activated salmon sperm DNA, 0.1 μCi of [adenylate-^{32}P]NAD, 0.2 units of recombinant human PARP for PARP-1 assay or 0.1 units of recombinant mouse PARP-2 for PARP-2 assay, and various concentrations of FR261529 or 3-AB. The reaction mixture is incubated at room temperature (23°C) for 15 min, and the reaction is terminated by adding 200 μL of ice-cold 20% trichloroacetic acid (TCA) and incubated at 4°C for 10 min. The precipitate is transferred onto GF/B filter and washed three times with 10% TCA solution and 70% ethanol. After the filter is dried, the radioactivity is determined by liquid scintillation counting. [1]</p>
References	<p>[1]. Iwashita A, et al. A novel and potent poly(ADP-ribose) polymerase-1 inhibitor, FR247304 (5-chloro-2-[3-(4-phenyl-3,6-dihydro-1(2H)-pyridinyl)propyl]-4(3H)-quinazolinone), attenuates neuronal damage in in vitro and in vivo models of cerebral ischemia. J Ph</p> <p>[2]. Haddad M, et al. Anti-inflammatory effects of PJ34, a poly(ADP-ribose) polymerase inhibitor, in transient focal cerebral ischemia in mice. Br J Pharmacol. 2006 Sep;149(1):23-30.</p> <p>[3]. Diani-Moore S, et al. NAD⁺ loss, a new player in AhR biology: prevention of thymus atrophy and hepatosteatosis by NAD⁺ repletion. Sci Rep. 2017 May 23;7(1):2268.</p>