产品名称：

1-[4-(Aminocarbonyl)-2-methylphenyl]-5-[4-(1H-imidazol-1-yl)phenyl]-1H-pyrrole-2-propanoic acid

产品别名：**N6022**

生物活性：

Description	N6022 is a potent, selective, reversible, and efficacious S-Nitrosoglutathione reductase(GSNOR) inhibitor with IC50 of 8 nM.
IC_{50} & Target	IC50: 8 nM (GSNOR)[2]
In Vitro	N6022 shows concentration-dependent binding to rat plasma proteins. N6022 has more effect on ATP at lower drug concentrations (20 μM) than on GSH[1]. N6022 binds in the GSNO substrate binding pocket like a competitive inhibitor with an IC50 of 8 nM and a Ki of 2.5 nM. N6022 is uncompetitive with cofactors NAD+ and NADH[2].
In Vivo	N6022 (50 mg/kg)-treated rats show a slight increase in the incidence of granulomas. In serum, N6022 remains in solution up to 5 mg/mL[1].
Solvent&Solubility	***In Vitro:*** **DMSO : ≥ 46 mg/mL (110.99 mM)** **H_2O : < 0.1 mg/mL** (insoluble) * "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.4128 mL	12.0639 mL	24.1278 mL
	5 mM	0.4826 mL	2.4128 mL	4.8256 mL
	10 mM	0.2413 mL	1.2064 mL	2.4128 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:

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: ≥ 2.5 mg/mL (6.03 mM); Clear solution

此方案可获得 ≥ 2.5 mg/mL (6.03 mM，饱和度未知) 的澄清溶液。

以 1 mL 工作液为例，取 100 μL 25.0 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: ≥ 2.5 mg/mL (6.03 mM); Clear solution

此方案可获得 ≥ 2.5 mg/mL (6.03 mM，饱和度未知) 的澄清溶液。

	以 1 mL 工作液为例，取 100 μL 25.0 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。
References	[1]. Sun X, et al. Structure-activity relationships of pyrrole based S-nitrosoglutathione reductase inhibitors: pyrrole regioisomers and propionic acid replacement. Bioorg Med Chem Lett. 2011 Jun 15;21(12):3671-5. [2]. Colagiovanni DB, et al. A nonclinical safety and pharmacokinetic evaluation of N6022: a first-in-class S-nitrosoglutathione reductase inhibitor for the treatment of asthma. Regul Toxicol Pharmacol. 2012 Feb;62(1):115-24. [3]. Green LS, et al. Mechanism of inhibition for N6022, a first-in-class drug targeting S-nitrosoglutathione reductase. Biochemistry. 2012 Mar 13;51(10):2157-68. [4]. Thomas M. Raffay, et al. Methods of treating respiratory disorders. Patent. US 20170209419 A1.

实验参考：

Cell Assay	N6022 is tested using a rat hepatoma (H4IIE) cell line whereby cells are seeded into 96-well plates and cultured in medium containing 20% bovine serum. Following an equilibration period of 48 h, the cells are treated with N6022 (5% DMSO vehicle) at concentrations of 0, 1, 5, 10, 20, 50, 100, and 300 μM for 24 h at 37°C in 5% CO_2. Camptothecin and rotenone are included as positive controls. The cell supernatant or the cells themselves are harvested for biochemical analysis.［1］
References	[1]. Sun X, et al. Structure-activity relationships of pyrrole based S-nitrosoglutathione reductase inhibitors: pyrrole regioisomers and propionic acid replacement. Bioorg Med Chem Lett. 2011 Jun 15;21(12):3671-5. [2]. Colagiovanni DB, et al. A nonclinical safety and pharmacokinetic evaluation of N6022: a first-in-class S-nitrosoglutathione reductase inhibitor for the treatment of asthma. Regul Toxicol Pharmacol. 2012 Feb;62(1):115-24. [3]. Green LS, et al. Mechanism of inhibition for N6022, a first-in-class drug targeting S-nitrosoglutathione reductase. Biochemistry. 2012 Mar 13;51(10):2157-68. [4]. Thomas M. Raffay, et al. Methods of treating respiratory disorders. Patent. US 20170209419 A1.