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产品名称：Succinobucol
产品别名：AGI-1067; Probucol monosuccinate

生物活性：

Description	Succinobucol is a phenolic antioxidant with anti-inflammatory and antiplatelet effects.
In Vitro	Succinobucol (10, 50, 100 μM) causes a dose-dependent reduction in collagen-induced platelet aggregation in rabbit whole blood. Succinobucol also causes a significant reduction in whole blood aggregation in response to ADP. Succinobucol (10, 100 μM) significantly lowers the relaxation to X/XO[1]. Succinobucol significantly prevents 3-NP-induced loss of SH-SY5Y cell viability, generation of reactive oxygen species, and decrease of ΔΨm. Succinobucol does not protect against 3-NP-induced inhibition of mitochondrial complex II activity, pointing to the mitigation of secondary events resultant from mitochondrial complex II inhibition. Succinobucol significantly increases (50 %) the levels of GSH in SH-SY5Y cells, which is paralleled by significant increases in glutamate cysteine ligase messenger RNA (mRNA) expression and activity[2]. Succinobucol effectively exhibits superior inhibitory effects on cell migration and invasion activities, VCAM-1 expression and cell-cell binding of RAW 264.7 to 4T1 cells. Succinobucol also shows inhibitory effect on VCAM-1 expression in 4T1 cells and cell-cell binding of RAW 264.7 to 4T1 cancer cells[3].
In Vivo	Succinobucol (50, 100, and 150 mg/kg, i.v.) has no significant effect on either heart rate or MAP, but the blood removed 15 minutes after the final injection of succinobucol shows significantly less aggregation in response to collagen at both 5 μg/mL and 20 μg/mL in rats[1]. Succinobucol (40 mg/kg) by tail injection significantly reduces the average number of metastatic nodules in lung metastatic breast cancer mice[3].
Solvent&Solubility	***In Vitro:*** **DMSO : ≥ 100 mg/mL (162.10 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	1.6210 mL	8.1049 mL	16.2098 mL
5 mM	0.3242 mL	1.6210 mL	3.2420 mL
10 mM	0.1621 mL	0.8105 mL	1.6210 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 (4.05 mM); Clear solution 此方案可获得 ≥ 2.5 mg/mL (4.05 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% corn oil Solubility: ≥ 2.5 mg/mL (4.05 mM); Clear solution 此方案可获得 ≥ 2.5 mg/mL (4.05 mM，饱和度未知) 的澄清溶液，此方案不适用于实验周期在半个月以上的实验。 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 玉米油中，混合均匀。
References	[1]. Houston SA, et al. An investigation of the antiplatelet effects of succinobucol (AGI-1067). Platelets. 2017 May;28(3):295-300. [2]. Colle D, et al. Succinobucol, a Lipid-Lowering Drug, Protects Against 3-Nitropropionic Acid-Induced Mitochondrial Dysfunction and Oxidative Stress in SH-SY5Y Cells via Upregulation of Glutathione Levels and Glutamate Cysteine Ligase Activity. Mol Neurobiol. 2016 Mar;53(2):1280-95. [3]. Dan Z, et al. A pH-Responsive Host-guest Nanosystem Loading Succinobucol Suppresses Lung Metastasis of Breast Cancer. Theranostics. 2016 Jan 25;6(3):435-45.

实验参考：

Cell Assay	The cytotoxicity of Succinobucol is determined in the metastatic 4T1 breast cancer cells. Cells are added to 96-well plates at 6×10^3 cells/well and cultured overnight. Then, Succinobucol, SCB and the PCD polymer (equivalent concentration to SCB) are respectively added to each well with SCB concentrations ranging from 4 ng/mL to 40 μg/mL. Cells without any treatment are performed as negative control. Thereafter, cells are incubated for further 48 h, and the cell viability is measured by MTT assay method. [3]
Animal Administration	Mice are injected with 2×10^5 4T1-luc cells per mouse to generate the lung metastatic breast cancer model. After the inoculation, mice are divided into three groups (n=4), and respectively treated with saline, SCB solution and Succinobucol (40 mg/kg) by tail injection every three days. At day 12, the formation of lung metastasis is determined by in vivo bioluminescence measurements. Then, mice are autopsied and the lung tissues are removed. In each lung tissue, the visually detected metastatic nodules are counted. The inhibition of lung metastasis is calculated as the average metastatic nodules in Succinobucol or SCB group compared to that in saline group. Moreover, the histological examination is performed by H&E staining to detect the metastatic foci in the lungs. [3]
References	[1]. Houston SA, et al. An investigation of the antiplatelet effects of succinobucol (AGI-1067). Platelets. 2017 May;28(3):295-300. [2]. Colle D, et al. Succinobucol, a Lipid-Lowering Drug, Protects Against 3-Nitropropionic Acid-Induced Mitochondrial Dysfunction and Oxidative Stress in SH-SY5Y Cells via Upregulation of Glutathione Levels and Glutamate Cysteine Ligase Activity. Mol Neurobiol. 2016 Mar;53(2):1280-95. [3]. Dan Z, et al. A pH-Responsive Host-guest Nanosystem Loading Succinobucol Suppresses Lung Metastasis of Breast Cancer. Theranostics. 2016 Jan 25;6(3):435-45.