



# SZABO SCANDIC

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## Produktinformation



Forschungsprodukte & Biochemikalien



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Laborgeräte & Service

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### Zuschläge

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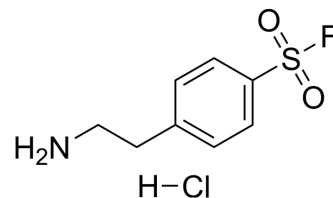
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## AEBSF hydrochloride

Cat. No.:	HY-12821
CAS No.:	30827-99-7
Molecular Formula:	C <sub>8</sub> H <sub>11</sub> ClFNO <sub>2</sub> S
Molecular Weight:	239.69
Target:	Thrombin; Influenza Virus; Ser/Thr Protease
Pathway:	Metabolic Enzyme/Protease; Anti-infection
Storage:	4°C, sealed storage, away from moisture * In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



### SOLVENT & SOLUBILITY

#### In Vitro

DMSO : 100 mg/mL (417.21 mM; Need ultrasonic)  
H<sub>2</sub>O : ≥ 100 mg/mL (417.21 mM)  
\* "≥" means soluble, but saturation unknown.

	Solvent Concentration	Mass	1 mg	5 mg	10 mg
Preparing Stock Solutions	1 mM		4.1721 mL	20.8603 mL	41.7206 mL
	5 mM		0.8344 mL	4.1721 mL	8.3441 mL
	10 mM		0.4172 mL	2.0860 mL	4.1721 mL

Please refer to the solubility information to select the appropriate solvent.

#### In Vivo

- Add each solvent one by one: PBS  
Solubility: 100 mg/mL (417.21 mM); Clear solution; Need ultrasonic
- Add each solvent one by one: Saline  
Solubility: 100 mg/mL (417.21 mM); Clear solution; Need ultrasonic
- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline  
Solubility: ≥ 2.08 mg/mL (8.68 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)  
Solubility: ≥ 2.08 mg/mL (8.68 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil  
Solubility: ≥ 2.08 mg/mL (8.68 mM); Clear solution

### BIOLOGICAL ACTIVITY

#### Description

AEBSF hydrochloride is an irreversible inhibitor of serine proteases, such as chymotrypsin, kallikrein, plasmin, thrombin, and trypsin.

<b>In Vitro</b>	<p>AEBSF inhibits the constitutive production of A<math>\beta</math> by directly inhibiting <math>\beta</math>-secretase in five different human cell lines, both neural and nonneural<sup>[1]</sup>.</p> <p>AEBSF, as a serine protease inhibitor, inhibits the lysis of leukemic cells by human macrophages without inhibiting macrophage secretion of TNF-<math>\alpha</math> and IL-1<math>\beta</math><sup>[2]</sup>.</p> <p>AEBSF also disturbs the growth of blastocysts on endometrial cells and inhibit the adhesion of HeLa cells on HUVECs by altering the protein secretion pattern<sup>[4]</sup>.</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>
<b>In Vivo</b>	<p>AEBSF (76.8 mg/kg daily, i.p.) results in prolongation of the survival of mice that have been given a lethal <i>T. gondii</i> infection<sup>[3]</sup>. AEBSF also reduces airway response and underlying inflammation in cockroach allergen-induced murine model<sup>[4]</sup>.</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>

## PROTOCOL

<b>Cell Assay</b> <sup>[4]</sup>	<p>The HeLa cells suspended in RPMI-1640 media containing 10% FCS are plated into each well of a 96-well microplate (5×10<sup>3</sup> cells/200 <math>\mu</math>L/well). After incubation for 24 h at 37°C, cells are treated with different doses of AEBSF (0, 25, 50, 100 <math>\mu</math>g/mL) for 48 h. Then, 20 <math>\mu</math>L fresh 3-(4,5)-dimethylthiaziazolo (-z-y1)-3,5-diphenyltetrazoliumromide (MTT) reagent (5 <math>\mu</math>g/<math>\mu</math>L) is added into each well, and cells are cultured at 37°C in 5% CO<sub>2</sub> for another 4 h. The media are discarded carefully, and 150 <math>\mu</math>L DMSO is added. Absorbance is read on a microplate reader at dual wavelengths of 540 and 620 nm.</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>
<b>Animal Administration</b> <sup>[3]</sup>	<p>Mice injected with 2.5×10<sup>3</sup> parasites are randomly assigned to one of the treatment groups according to the treatment given: without drugs (control group), vehicle alone (vehicle control group), pyrimethamine alone at different doses, LY311727 alone at different doses, AEBSF alone at different doses or AEBSF 76.8 mg/kg plus pyrimethamine 10 mg/kg. Each treatment group consists of 10 animals. Treatment is initiated 24 h after parasite inoculation and is continued for seven consecutive days. Mouse survival is monitored daily and continued in live mice until 15 days post-infection. All experiments are performed three times and the data shown represent the cumulative results.</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>

## CUSTOMER VALIDATION

- Autophagy. 2021 Jul;17(7):1592-1613.
- J Pharm Anal. 2023 May 15.
- J Virol. 2021 Dec 1;JV10110321.
- Int J Oncol. 2019 Jul;55(1):331-339.
- Arch Biochem Biophys. 2020 Jul 30;688:108402.

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## REFERENCES

- [1]. Citron M, et al. Inhibition of amyloid beta-protein production in neural cells by the serine protease inhibitor AEBSF. *Neuron*. 1996 Jul;17(1):171-9
- [2]. Nakabo Y, et al. Lysis of leukemic cells by human macrophages: inhibition by 4-(2-aminoethyl)-benzenesulfonyl fluoride (AEBSF), a serine protease inhibitor. *J Leukoc Biol*. 1996 Sep;60(3):328-36.
- [3]. Buitrago-Rey R, et al. Evaluation of two inhibitors of invasion: LY311727 [3-(3-acetamide-1-benzyl-2-ethyl-indolyl-5-oxy)propane phosphonic acid] and AEBSF [4-(2-aminoethyl)-benzenesulphonyl fluoride] in acute murine toxoplasmosis. *J Antimicrob Chemother*.

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[4]. Jiang YH, et al. Serine protease inhibitor 4-(2-aminoethyl)benzenesulfonyl fluoride hydrochloride (AEBSF) inhibits the rat embryo implantation in vivo and interferes with cell adhesion in vitro. Contraception. 2011 Dec;84(6):642-8.

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**Caution: Product has not been fully validated for medical applications. For research use only.**

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