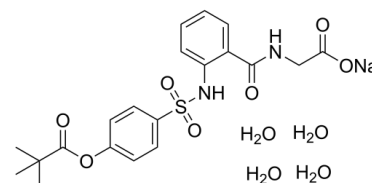


## Data Sheet

<b>Product Name:</b>	Sivelestat (sodium tetrahydrate)
<b>Cat. No.:</b>	CS-3380
<b>CAS No.:</b>	201677-61-4
<b>Molecular Formula:</b>	C <sub>20</sub> H <sub>29</sub> N <sub>2</sub> NaO <sub>11</sub> S
<b>Molecular Weight:</b>	528.51
<b>Target:</b>	Elastase; SARS-CoV
<b>Pathway:</b>	Anti-infection; Metabolic Enzyme/Protease
<b>Solubility:</b>	DMSO : 250 mg/mL (473.03 mM; Need ultrasonic)



### BIOLOGICAL ACTIVITY:

Sivelestat (EI546) sodium tetrahydrate is a competitive inhibitor of **human neutrophil elastase**, with an **IC<sub>50</sub>** of 44 nM and a **K<sub>i</sub>** of 200 nM. Sivelestat (EI546) sodium tetrahydrate has the potential for the study of acute lung injury/acute respiratory distress syndrome or disseminated intravascular coagulation in COVID-19<sup>[1][2][3][4]</sup>. *In Vitro*: Sivelestat (ONO-5046) does not inhibit trypsin, thrombin, plasmin, plasma kallikrein, pancreas kallikrein, chymotrypsin and cathepsin G even at 100 μM<sup>[1]</sup>.

Sivelestat (ONO-5046) exhibits IC<sub>50</sub> values of 44 nM, 36 nM, 19 nM, 37 nM and 49 nM for human, rabbit, rat, hamster and mouse neutrophil elastase, respectively<sup>[1]</sup>.

*In Vivo*: Sivelestat (ONO-5046, 0.021-2.1 mg/kg, intratracheally) suppresses lung hemorrhage in hamster (ID<sub>50</sub> = 82 pg/kg) by intratracheal administration and increase of skin capillary permeability in guinea pig (ID<sub>50</sub> = 9.6 mg/kg) by intravenous administration, both of which are induced by human neutrophil elastase<sup>[1]</sup>.

Sivelestat (10 mg/kg, infusion via the tail vein) ameliorates lung injury after hemorrhagic shock in rats<sup>[2]</sup>.

Sivelestat (15, 60 mg/kg, ip) prevents ischemia–reperfusion injury in the rat bladder<sup>[3]</sup>.

### References:

- [1]. Kawabata K, et al. ONO-5046, a novel inhibitor of human neutrophil elastase. *Biochem Biophys Res Commun*. 1991 Jun 14;177(2):814-20.
- [2]. Yuichiro Toda, et al. A neutrophil elastase inhibitor, sivelestat, ameliorates lung injury after hemorrhagic shock in rats. *Int J Mol Med*. 2007 Feb;19(2):237-43.
- [3]. Tomoharu Kono, et al. Neutrophil elastase inhibitor, sivelestat sodium hydrate prevents ischemia-reperfusion injury in the rat bladder. *Mol Cell Biochem*. 2008 Apr;311(1-2):87-92.
- [4]. Adeleh Sahebnaasagh, et al. Neutrophil elastase inhibitor (sivelestat) may be a promising therapeutic option for management of acute lung injury/acute respiratory distress syndrome or disseminated intravascular coagulation in COVID-19. *J Clin Pharm Ther*. 2020 Aug 28.

### CAIndexNames:

Propanoic acid, 2,2-dimethyl-, 4-[[[2-[[[(carboxymethyl)amino]carbonyl]phenyl]amino]sulfonyl]phenyl ester, sodium salt, hydrate (1:1:4)

### SMILES:

CC(C)(C)C(OC1=CC=C(S(=O)(NC2=CC=CC=C2C(NCC(O[Na])=O)=O)=O)C=C1)=O.O.O.O.O

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

Tel: 610-426-3128

Fax: 888-484-5008

E-mail: [sales@ChemScene.com](mailto:sales@ChemScene.com)

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA