

## Belnacasan, Caspase 1 (ICE) inhibitor

Catalog	Unit
TBI4399-5MG	5 mg
TBI4399-25MG	25 mg

### Product Details

**Formal Name:** (S)-1-((S)-2-(4-Amino-3-chlorobenzamido)-3,3-dimethylbutanoyl)-N-((2R,3S)-2-ethoxy-5-oxotetrahydrofuran-3-yl)pyrrolidine-2-carboxamide

**Alternate Names:** VX-765

**Molecular Formula:** C<sub>24</sub>H<sub>33</sub>ClN<sub>4</sub>O<sub>6</sub>

**Formula Weight:** 509.00

**CAS Number:** 273404-37-8

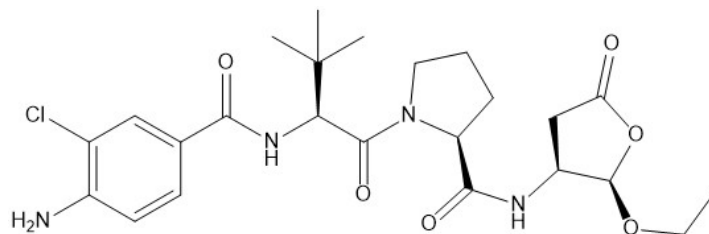
**Purity:** >98%

**Formulation:** powder

**Solubility:** Soluble in DMSO (up to 25 mg/ml)

**Storage:** -20°C

**Stability:** ≥ 1 year.



### Applications

Caspase 1 (ICE) inhibitor

### Functions

Belnacasan is a prodrug of VRT-043198 (O-desethyl-belnacasan), a potent ( $K_i = 0.8$  nM ICE/caspase-1;  $<0.6$  nM caspase-4) and selective inhibitor of interleukin-converting enzyme/caspase-1 subfamily caspases. VRT-043198 ICE/caspase-1  $IC_{50} = 0.67$   $\mu$ M PBMCs, 1.0  $\mu$ M whole blood. It inhibited the release of IL-1 $\beta$  and IL-18 from human monocytes in vitro and their production in vivo in models of inflammation. Belnacasan inhibited the activation and expression of the NLRP3 Inflammasome leading to moderation of depressive-like behaviors induced by chronic mild stress and prevention of glial pyroptosis in multiple sclerosis models. It inhibited pyroptosis in vascular smooth muscle cells during atherogenesis suggesting a possible therapeutic effect in treating atherosclerotic disease. Belnacasan reduced acute seizures and drug resistant chronic epileptic activity in mice and provided neuroprotection in two rat models of temporal lobe epilepsy. It also displays protective effects in models of stroke and Alzheimer's disease.

### Application Procedures

First dissolved in DMSO (up to 25 mg/ml), then diluted to aqueous buffer. Solutions in DMSO may be stored at -20°C for up to 3 months.

**For research use only.**