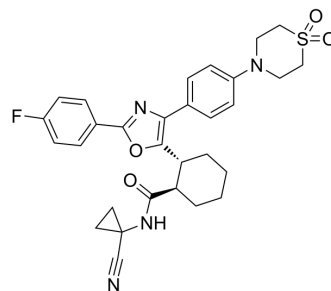


## Cathepsin K inhibitor 3

Cat. No.:	HY-151524
CAS No.:	1694638-70-4
Molecular Formula:	C <sub>30</sub> H <sub>31</sub> FN <sub>4</sub> O <sub>4</sub> S
Molecular Weight:	562.65
Target:	Cathepsin
Pathway:	Metabolic Enzyme/Protease
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



### BIOLOGICAL ACTIVITY

<b>Description</b>	Cathepsin K inhibitor 3 (compound 23) is a highly selective cathepsin K inhibitor with an IC <sub>50</sub> value of 0.5 nM. Cathepsin K inhibitor 3 has a favorable pharmacokinetic profile and may be used in osteoarthritis (OA) disease studies <sup>[1]</sup> .																
<b>IC<sub>50</sub> &amp; Target</b>	cathepsin K 0.5 nM (IC <sub>50</sub> )																
<b>In Vivo</b>	<p>Cathepsin K inhibitor 3 (compound 23) (p.o., 0.03-15 mg/kg, daily, 4 days) results in a significant and dose-dependent reduction in uCTX-I, with an 81% reduction in uCTX-1 levels at 0.3 mg/kg and a slightly more complete reduction at 15 mg/kg in dog<sup>[1]</sup>.</p> <p>The pharmacokinetic parameters of compound 23</p> <table border="1"> <thead> <tr> <th>Parameters</th> <th>Cl(mL/min/kg)</th> <th>T<sub>1/2</sub>(h)</th> <th>%F</th> </tr> </thead> <tbody> <tr> <td>Rat</td> <td>13</td> <td>1</td> <td>33</td> </tr> <tr> <td>Dog</td> <td>3.1</td> <td>4.1</td> <td>38</td> </tr> <tr> <td>Rhesus</td> <td>18.5</td> <td>2.3</td> <td>55</td> </tr> </tbody> </table> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>	Parameters	Cl(mL/min/kg)	T <sub>1/2</sub> (h)	%F	Rat	13	1	33	Dog	3.1	4.1	38	Rhesus	18.5	2.3	55
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### REFERENCES

[1]. Anthony T Ginnetti, et al. Lead optimization of cathepsin K inhibitors for the treatment of Osteoarthritis. *Bioorg Med Chem Lett*. 2022 Oct 15;74:128927.

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

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