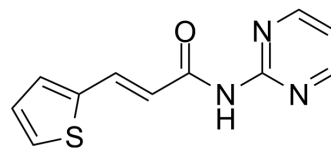


## NP-BTA

<b>Cat. No.:</b>	HY-163540
<b>CAS No.:</b>	544420-99-7
<b>Molecular Formula:</b>	C <sub>11</sub> H <sub>9</sub> N <sub>3</sub> OS
<b>Molecular Weight:</b>	231.27
<b>Target:</b>	Aminoacyl-tRNA Synthetase; Fungal
<b>Pathway:</b>	Metabolic Enzyme/Protease; Anti-infection
<b>Storage:</b>	Please store the product under the recommended conditions in the Certificate of Analysis.



## BIOLOGICAL ACTIVITY

<b>Description</b>	NP-BTA is an allosteric inhibitor for glutaminyl-tRNA synthetase (GlnRS). NP-BTA exhibits antifungal efficacy against <i>Candida albicans</i> , with MIC <sub>50</sub> of 6.25 μM <sup>[1]</sup> .
<b>In Vitro</b>	NP-BTA (300 μM) inhibits GlnRS through binding His <sub>6</sub> -Gln4, with K <sub>D</sub> of 180 nM, and thus inhibits aminoacylation of tRNA <sup>Gln</sup> with IC <sub>50</sub> of 106 nM <sup>[1]</sup> . MCE has not independently confirmed the accuracy of these methods. They are for reference only.
<b>In Vivo</b>	NP-BTA (0.096–0.27 g 2% NP-BTA cream, application, twice daily for 7 days) protects immunosuppressed CD-1 mice from infection of <i>T. mentagrophytes conidia</i> <sup>[1]</sup> . MCE has not independently confirmed the accuracy of these methods. They are for reference only.
<b>Animal Model:</b>	T. mentagrophytes infected immunosuppressed CD-1 mice <sup>[1]</sup>
<b>Dosage:</b>	0.096–0.27 g 2% NP-BTA cream
<b>Administration:</b>	Topical application, twice daily for 7 days
<b>Result:</b>	Reduced fungal burden.

## REFERENCES

[1]. Puumala E, et al., Allosteric inhibition of tRNA synthetase Gln4 by N-pyrimidinyl-β-thiophenylacrylamides exerts highly selective antifungal activity. *Cell Chem Biol.* 2024 Apr 18;31(4):760-775.e17.

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

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