

PRODUCT INFORMATION

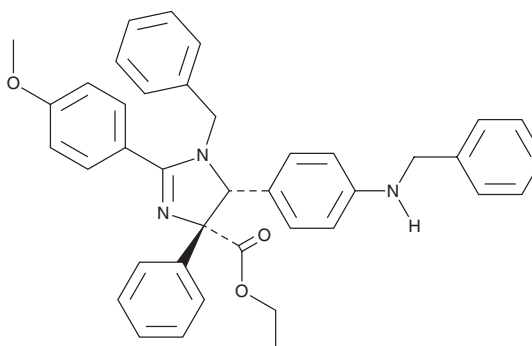


TCH-165

Item No. 40454

CAS Registry No.: 1446350-60-2
Formal Name: *rel*-(4R,5R)-4,5-dihydro-2-(4-methoxyphenyl)-4-phenyl-1-(phenylmethyl)-5-[4-[(phenylmethyl)amino]phenyl]-1H-imidazole-4-carboxylic acid, ethyl ester

MF: C₃₉H₃₇N₃O₃
FW: 595.7
Purity: ≥98%
Supplied as: A solid
Storage: -20°C
Stability: ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

TCH-165 is supplied as a solid. A stock solution may be made by dissolving the TCH-165 in the solvent of choice, which should be purged with an inert gas. TCH-165 is soluble in DMSO and methanol.

Description

TCH-165 is a modulator of proteasome assembly.¹ It selectively activates the chymotrypsin-like, trypsin-like, and caspase-like activities of the 20S proteasome (EC₅₀s = 4.2, 3.2, and 4.7 μM, respectively) over the same activities of the 26S proteasome (EC₅₀s = >70 μM for all) but also inhibits the chymotrypsin-like activity of the 20S proteasome (IC₅₀ = 1.44 μM) in cell-free assays.^{1,2} TCH-165 (10 μM) increases the 20S proteasome-dependent degradation of the intrinsically disordered proteins α-synuclein and tau.¹ It enhances disassembly of the 26S proteasome with a concomitant increase in 20S proteasome levels in HEK293T cells in a time- and concentration-dependent manner. TCH-165 (100 mg/kg, p.o.) decreases tumor volume in an RPMI-8226 multiple myeloma mouse xenograft model.³ It decreases infarct volume as a percentage of the area at risk in a mouse model of cardiac ischemia-reperfusion injury induced by left anterior descending coronary artery occlusion when administered at a dose of 50 mg/kg.⁴

References

1. Njomen, E., Osmulski, P.A., Jones, C.L., *et al.* Small molecule modulation of proteasome assembly. *Biochemistry* **57**(28), 4214-4224 (2018).
2. Azevedo, L.M., Lansdell, T.A., Ludwig, J.R., *et al.* Inhibition of the human proteasome by imidazoline scaffolds. *J. Med. Chem.* **56**(14), 5974-5978 (2013).
3. Njomen, E., Vanecsek, A., Lansdell, T.A., *et al.* Small molecule 20S proteasome enhancer regulates MYC protein stability and exhibits antitumor activity in multiple myeloma. *Biomedicines* **10**(5), 938 (2022).
4. Gao, J., Su, H.-X., Li, P.-B., *et al.* TCH-165 attenuates cardiac ischaemia/reperfusion injury by balancing mitochondrial dynamics via increasing proteasome activity. *Eur. J. Pharmacol.* **957**, 176011 (2023).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 08/20/2024

CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA

PHONE: [800] 364-9897
[734] 971-3335

FAX: [734] 971-3640

CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM