



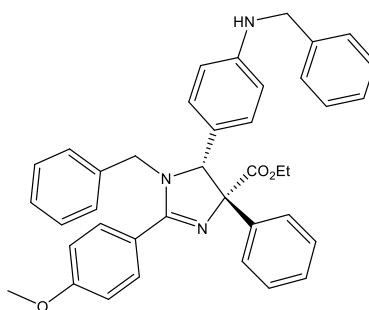
Catalog #10-4400

TCH-165

CAS# 1446350-60-2

Ethyl (4*R*,5*R*)-3-benzyl-4-[4-(benzylamino)phenyl]-2-(4-methoxyphenyl)-5-phenyl-4*H*-imidazole-5-carboxylate

Lot # FBS5044



TCH-165 is an activator of the 20S proteasome ($EC_{50} = 4.2 \mu M$).¹ It enhanced the proteolysis of intrinsically disordered proteins, including α -synuclein, tau, ornithine decarboxylase, and c-Fos, without affecting structured proteins. TCH-165 increased MYC degradation and reduced multiple myeloma and glioblastoma cell growth.² It enhanced the degradation of neurotoxic dipeptide repeat proteins, protected rodent motor neurons, and restored proteostasis in cortical neuron cultures suggesting potential therapeutic use in neurodegenerative conditions.³ TCH-165 also attenuated cardiac ischemia/reperfusion injury in mice.⁴ Disruption of the MYC:MAX interaction by MYCMI-11 (Focus Cat#10-4146) along with 20S proteasome activation with TCH-165 enhanced MYC degradation, suppressed MYC-dependent transcription, and promoted apoptosis in colon cancer cells.⁵

- 1) Njomen *et al.* (2018) *Small Molecule Modulation of Proteasome Assembly*; *Biochemistry* **57** 4214
- 2) Njomen *et al.* (2022) *Small Molecule 20S Proteasome Enhancer Regulates MYC Protein Stability and Exhibits Antitumor Activity in Multiple Myeloma*; *Biomedicines* **10** 938
- 3) Vanecek *et al.* (2023) *Enhanced Degradation of Mutant C9ORF72-Derived Toxic Dipeptide Repeat Proteins by 20S Proteasome Activation Results in Restoration of Proteostasis and Neuroprotection*; *ACS Chem. Neurosci.* **14** 1439
- 4) Gao *et al.* (2023) *TCH-165 attenuates cardiac ischemia/reperfusion injury by balancing mitochondrial dynamics via increasing proteasome activity*; *Eur. J. Pharmacol.* **957** 176011
- 5) Olatunde and Tepe (2026) *Chemical Induction of MYC Protein Degradation via MYC-MAX Disruption and 20S Proteasome Activation*; *ACS Chem. Biol.* **21** 1728

PHYSICAL DATA

Molecular Weight:	595.74
Molecular Formula:	C ₃₉ H ₃₇ N ₃ O ₃
Purity:	>98% (HPLC)
	NMR: (Conforms)
Solubility:	DMSO (50 mg/ml)
Physical Description:	Yellow solid
Storage and Stability:	Store as supplied at -20°C for up to 2 years from the date of purchase. Solutions in DMSO may be stored at -20°C for up to 1 month.

Materials provided by Focus Biomolecules are for laboratory research use only and are not intended for human or veterinary applications.

Focus Biomolecules LLC 400 Davis Drive, Suite 600 Plymouth Meeting PA 19462

www.focusbiomolecules.com