Certificate of Analysis

Product Name: **TCH-165** **Catalog No.: 7489** **Batch No.: 1**

CAS Number: 1446350-60-2

IUPAC Name: Ethyl (4*R*,5*R*)-*rel*-1-benzyl-5-(4-(benzylamino)phenyl)-2-(4-methoxyphenyl)-4-phenyl-4,5-dihydro-1*H*-imidazole-4-carboxylate

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_{39}H_{37}N_3O_3.¼H_2O$

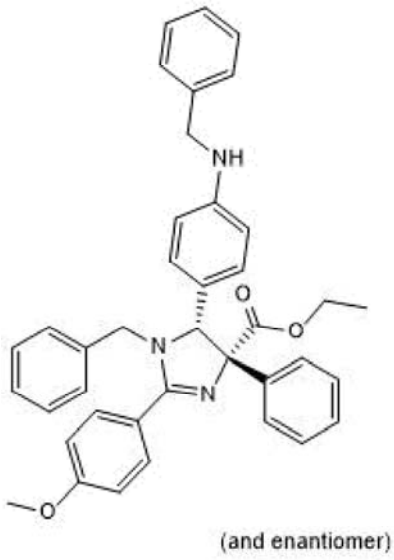
Batch Molecular Weight: 600.24

Physical Appearance: Yellow solid

Solubility: ethanol to 100 mM
DMSO to 100 mM

Storage: Store at -20°C

Batch Molecular Structure:



(and enantiomer)

2. ANALYTICAL DATA

HPLC: Shows 98.2% purity

^{1}H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	78.04	6.3	7
Found	77.93	6.19	7.08

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Description:

TCH-165 is an enhancer of 20S proteasome assembly. TCH-165 regulates the dynamic equilibrium between the 20S and 26S proteasome complexes, favoring 20S-mediated protein degradation. TCH-165 enhances the proteolytic activity of the 20S proteasome by increasing substrate accessibility to the 20S catalytic chamber through 20S gate opening. TCH-165 enhances 20S-mediated degradation of IDPs, α-syn, and tau in vitro, and does not induce the degradation of structured proteins such as GAPDH. TCH-165 enhances c-MYC degradation by the 20S proteasome, which reduces c-MYC levels in vivo, and is effective in bortezomib (Cat. No. 7282) resistant cells... Please see product specific page on www.tocris.com for full description.

Physical and Chemical Properties:

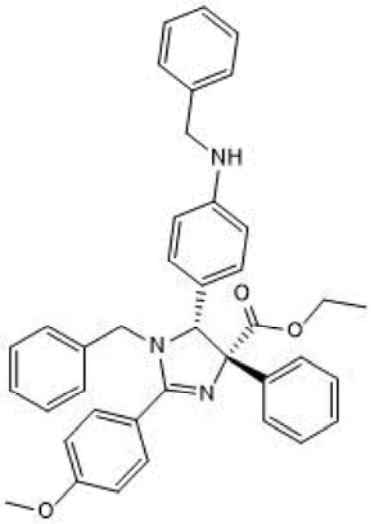
Batch Molecular Formula: $C_{39}H_{37}N_3O_3.¼H_2O$

Batch Molecular Weight: 600.24

Physical Appearance: Yellow solid

Minimum Purity: ≥98%

Batch Molecular Structure:



(and enantiomer)

Storage: Store at -20°C

Solubility & Usage Info:

ethanol to 100 mM
DMSO to 100 mM

Stability and Solubility Advice:

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. Our standard recommendations are:

SOLIDS: Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

SOLUTIONS: We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

References:

Njomen *et al* (2020) Enhancing c-MYC degradation via 20S proteasome activation induces *in vivo* anti-tumor efficacy. BioRxiv- not yet peer reviewed.

Njomen *et al* (2018) Small molecule modulation of proteasome assembly. Biochemistry ***57*** 4214. PMID: 29897236.

Azevedo *et al* (2013) Inhibition of the human proteasome by imidazoline scaffolds. J Med Chem ***56*** 10 1021. PMID: 23789888.

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