

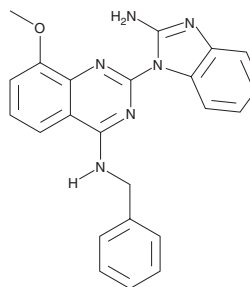
PRODUCT INFORMATION



ML-240

Item No. 17373

CAS Registry No.: 1346527-98-7
Formal Name: 2-(2-amino-1H-benzimidazol-1-yl)-8-methoxy-N-(phenylmethyl)-4-quinazolinamine
MF: C₂₃H₂₀N₆O
FW: 396.4
Purity: ≥95%
UV/Vis.: λ_{max}: 254, 304 nm
Supplied as: A crystalline 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

ML-240 is supplied as a crystalline solid. A stock solution may be made by dissolving the ML-240 in the solvent of choice, which should be purged with an inert gas. ML-240 is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of ML-240 in these solvents is approximately 1 mg/ml.

ML-240 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, ML-240 should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. ML-240 has a solubility of approximately 0.25 mg/ml in a 1:3 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

ML-240 is an ATP-competitive inhibitor of the D2 domain of the ATPase p97 (IC₅₀ = 0.11 μM; K_i = 0.22 μM).^{1,2} It disrupts the endoplasmic reticulum-associated degradation (ERAD) and autophagy pathways, preventing the degradation of p97-dependent proteasome substrates (IC₅₀ = 0.9 μM) and causing accumulation of ubiquitin conjugates in nuclear membrane and cytosolic compartments at 5-10 μM.¹ ML-240 has also been shown to block proliferation of HCT15 and SW403 colon cancer cell lines (GI₅₀s = 0.76 and 0.5 μM, respectively) and to rapidly mobilize caspase-3 and -7, inducing apoptosis.¹

References

1. Chou, T.-F., Li, K., Frankowski, K.J., *et al.* Structure-activity relationship study reveals ML240 and ML241 as potent and selective inhibitors of p97 ATPase. *ChemMedChem*. **8**(2), 297-312 (2013).
2. Chou, T.-F., Bulfer, S.L., Weihl, C.C., *et al.* Specific inhibition of p97/VCP ATPase and kinetic analysis demonstrate interaction between D1 and D2 ATPase domains. *J. Mol. Biol.* **426**(15), 2886-2899 (2014).

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.

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