PRODUCT INFORMATION



IM-156 (acetate)

Item No. 34763

CAS Registry No.:	2043654-54-0				
Formal Name:	N-[imino[[4-(trifluoromethoxy)phenyl]amino]				
	methyl]-1-pyrrolidinecarboximidamide, acetate				
Synonyms:	HL156A, HL271				F
MF:	$C_{13}H_{16}F_{3}N_{5}O \bullet XC_{2}H_{4}O_{2}$	NH	NH		F
FW:	315.3				F
Purity:	≥98%			~	
UV/Vis.:	λ _{max} : 253 nm		н н	• XCH ₃ CO ₂ H	
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

IM-156 (acetate) is supplied as a solid. A stock solution may be made by dissolving the IM-156 (acetate) in the solvent of choice, which should be purged with an inert gas. IM-156 (acetate) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of IM-156 (acetate) in these solvents is approximately 1 mg/ml.

Description

IM-156 is an inhibitor of mitochondrial complex I, also known as NADH dehydrogenase (IC₅₀ = 2.2 μ M) and an activator of AMP-activated protein kinase α (AMPK α).^{1,2} It reduces the oxygen consumption rate (OCR; IC₅₀ = 3.3 μ M) and decreases mitochondrial ATP production in E μ -Myc mouse lymphoma cells.¹ IM-156 (10, 30, and 50 μ M) increases AMPKa activity in primary rat peritoneal mesothelial cells and protects against chlorhexidine-induced peritoneal fibrosis in rats when administered at a dose of 1 mg/kg.² It reduces tumor growth in an AT-84 murine oral cancer model and decreases age-related decline in novel object recognition, spatial working, and contextual memory in mice.^{3,4}

References

- 1. Izreig, S., Gariepy, A., Kaymak, I., et al. Repression of LKB1 by miR-17~92 sensitizes MYC-dependent lymphoma to biguanide treatment. Cell Rep. Med. 1(2), 100014 (2020).
- 2. Ju, K.D., Kim, H.J., Tsogbadrakh, B., et al. HL156A, a novel AMP-activated protein kinase activator, is protective against peritoneal fibrosis in an in vivo and in vitro model of peritoneal fibrosis. Am. J. Physiol. Renal. Physiol. 310(5), F342-F350 (2016).
- 3. Lam, T.G., Jeong, Y.S., Kim, S.-A., et al. New metformin derivative HL156A prevents oral cancer progression by inhibiting the insulin-like growth factor/AKT/mammalian target of rapamycin pathways. Cancer Sci. 109(3), 699-709 (2018).
- 4. Bang, E., Lee, B., Park, J.-O., et al. The improving effect of HL271, a chemical derivative of metformin, a popular drug for type II diabetes mellitus, on aging-induced cognitive decline. Exp. Neurobiol. 27(1), 45-56 (2018).

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

SAFFTY 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

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