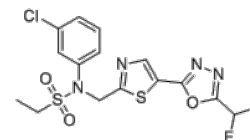


Product Name : TYA-018
Cat. No. : PC-49250
CAS No. : 2653254-31-8
Molecular Formula : C₁₅H₁₃ClF₂N₄O₃S₂
Molecular Weight : 434.861
Target : HDAC
Solubility : 10 mM in DMSO



Biological Activity

TYA-018 (TYA018) is a potent, isoform-selective inhibitor of **HDAC6** with IC₅₀ of 10 nM, inhibits tubulin acetylation (Ac-Tubulin) with EC₅₀ of 120 nM in cell-based assay in induced pluripotent stem cell-derived cardiomyocytes (iPSC-CMs). TYA-018 displays >2500-fold selectivity compared with other zinc-dependent HDACs, shows no any off-target activity of on nuclear HDACs by measuring acetylated lysine on histone H3 and H4.

TYA-018 (15 mg/kg by oral gavage) reduced Nppb expression and sarcomere damage and prevented heart failure in BAG3 cardiomyocyte-knockout (BAG3cKO) mouse model of Dilated cardiomyopathy (DCM), partially restored protein expression of FLNC, PINK1, VDAC2, and p62 to amounts similar to WT mice.

TYA-018 treatment reduces mitochondrial content, decreases apoptotic nuclei, and increases LC3 puncta in hearts of BAG3cKO mice.

TYA-018 treatment enriches targets associated with muscle contraction, protein and fatty acid metabolism, and oxidative phosphorylation in BAG3cKO mice.

References

Jin Yang, et al. *Sci Transl Med*. 2022 Jul 6;14(652):eab15654.

Caution: Product has not been fully validated for medical applications. Lab Use Only!

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