

Product Data Sheet

Product Name: AMPK activator 18

Cat. No.: GC79177

Chemical Properties

Cas. No. 1364692-88-5

Formula $C_{26}H_{18}ClN_3O_4$

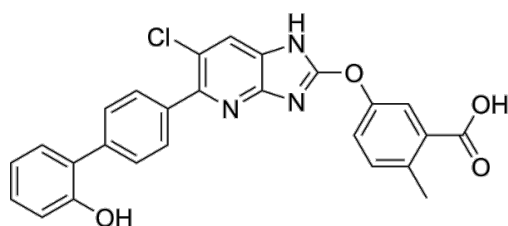
M.Wt 471.9

Solubility Storage Store at 4°C, stored under nitrogen

General tips For obtaining a higher solubility, please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution : ship with blue ice All other available size: ship with RT, or blue ice upon request.

Structure



Background

AMPK activator 18 is a potent allosteric activator of AMPK complexes containing the $\beta 2$ isoform. AMPK activator 18 activates $\alpha 2$ -containing AMPK $\alpha 2\beta 2\gamma 1$ and $\alpha 2\beta 2\gamma 3$ complexes, with EC 50 values of 17.2 and 82.1 nM. AMPK activator 18 stimulates $\beta 2$ -AMPK in cells, and glucose uptake by isolated skeletal muscle. AMPK activator 18 induces acetyl-coenzyme A carboxylase (ACC) and AMPK α -T172 phosphorylation. AMPK activator 18 can be used for the research of type 2 diabetes [1].

In Vitro, AMPK activator 18 potently and selectively activates $\alpha 2$ -containing AMPK complexes, particularly the skeletal muscle-enriched $\alpha 2\beta 2\gamma 1$ and $\alpha 2\beta 2\gamma 3$ complexes, with EC50 values of $17.2 \pm$

Caution: Product has not been fully validated for medical applications. For research use only.

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com

Address: 10292 Central Ave. #205, Montclair, CA, USA

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1.6 nM and 82.1 ± 1.3 nM respectively, and its activation is dependent on the $\beta 2$ -D111 residue but not the $\beta 2$ N-terminal helix^[1]. AMPK activator 18 (0.03-10 μ M; 1 h) triggers AMPK signaling in differentiated C2C12 myotubes and $\beta 2$ -reconstituted iMEFs via an allosteric mechanism independent of changes to intracellular AMP/ATP ratio or AMPK α -T172 phosphorylation, inducing dose-dependent ACC phosphorylation^[1]. AMPK activator 18 (1-2 μ M) increases ACC phosphorylation and AMPK α -T172 phosphorylation levels in Epitrochlearis muscles^[1]. AMPK activator 18 (10 μ M) reduces 2-deoxyglucose (2DG) uptake in soleus and extensor digitorum longus muscles^[1].

References:

[1]. Ngoei K R W, et al. Structural determinants for small-molecule activation of skeletal muscle AMPK $\alpha 2 \beta 2 \gamma 1$ by the glucose importagog SC4[J]. Cell chemical biology, 2018, 25(6): 728-737. e9.

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