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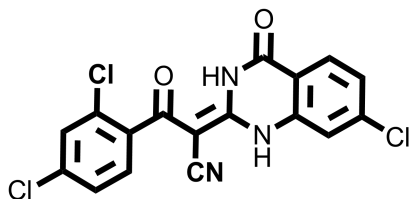
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AAA+ ATPase Motor Cytoplasmic Dynein Inhibitor - Cilliobrevin D

Chemical Name: 2-(7-chloro-4-oxo-3,4-dihydroquinazolin-2(1H)-ylidene)-3-(2,4-dichlorophenyl)-3-oxopropanenitrile



| | |
|-------------------|--|
| Molecular Weight: | 392.62 |
| Formula: | C ₁₇ H ₈ Cl ₃ N ₃ O ₂ |
| Purity: | ≥98% |
| CAS#: | 1370554-01-0 |
| Solubility: | DMSO up to 25mM |
| Storage | Powder: 4°C 1 year DMSO: 4°C 3 month -20°C 1 year |

Biological Activity:

Ciliobrevin D is the first specific small molecule antagonist of cytoplasmic dynein, and can inhibit both cytoplasmic dynein 1 and 2. The conversion of chemical energy into mechanical force by AAA+ ATPases is integral to cellular processes, including DNA replication, protein unfolding, cargo transport and membrane fusion. The AAA+ ATPase motor cytoplasmic dynein regulates ciliary trafficking, mitotic spindle formation and organelle transport. Ciliobrevin D perturbs protein trafficking within the primary cilium, leading to their malformation and Hedgehog signaling blockade. It also prevents spindle pole focusing, kinetochore–microtubule attachment, melanosome aggregation and peroxisome motility in cultured cells. Ciliobrevin D can block dynein-dependent microtubule gliding and ATPase activity *in vitro*. Therefore it serves as a useful probe for dynein-dependent processes and studying cellular processes that require this microtubule motor.

How to Use:

In vitro: Cilliobrevin D was used at 20-50 μ M concentration in the *in vitro* assays.

In vivo: n/a

Reference:

1. Firestone AJ, et al. Small-molecule inhibitors of the AAA+ ATPase motor cytoplasmic dynein. (2012) *Nature*. 484(7392):125-9.

Products are for research use only. Not for human use.