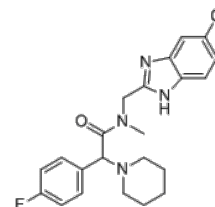


**Product Name** : AD-5584  
**Cat. No.** : PC-21663  
**CAS No.** : 2306525-79-9  
**Molecular Formula** : C<sub>22</sub>H<sub>24</sub>ClFN<sub>4</sub>O  
**Molecular Weight** : 414.91  
**Target** : Other Targets  
**Solubility** : 10 mM in DMSO



CAS: 2306525-79-9

## Biological Activity

AD-5584 is a potent, brain permeable human Acetyl-CoA synthetase 2 (**ACSS2**) inhibitor with IC<sub>50</sub> of 0.86 μM, a key metabolic enzyme involved in regulating fatty acid synthesis and protein acetylation in tumor cells.

AD-5584 specifically binds ACSS2 (K<sub>D</sub>=188 μM) but not the mitochondrial isoform hACSS1.

AD-5584 leads to a significant reduction in lipid storage, reduction in colony formation, and increase in cell death in MDA-MB-231BR cells.

AD-5584 significantly reduces tumor size and synergizes with radiation in blocking BCBM tumor growth in an ex vivo orthotopic brain-slice tumor model.

## References

- Emily Esquea, et al. *bioRxiv*. December 23, 2023.
- Esquea EM, et al. *Front Pharmacol*. 2024 May 16;15:1394685.

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

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