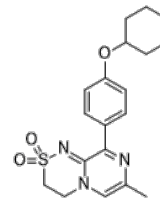


**Product Name** : TAK-653  
**Cat. No.** : PC-22292  
**CAS No.** : 1358751-06-0  
**Molecular Formula** : C<sub>19</sub>H<sub>23</sub>N<sub>3</sub>O<sub>3</sub>S  
**Molecular Weight** : 373.47  
**Target** : iGluR  
**Solubility** : 10 mM in DMSO



## Biological Activity

TAK-653 (NBI-1065845, Osavampator) is a potent, selective AMPA receptor positive allosteric modulator/potentiator, induces Ca<sup>2+</sup> influx in hGluA1i CHO cells with EC<sub>50</sub> of 2.2 μM.

TAK-653 exhibits minimal agonistic properties, binds to the ligand binding domain of recombinant AMPA-R in a glutamate-dependent manner.

TAK-653 strictly potentiated a glutamate-induced Ca<sup>2+</sup> influx in hGluA1i-expressing CHO cells through structural interference at Ser743 in GluA1.

TAK-653 augmented AMPA-induced Ca<sup>2+</sup> influx and AMPA-elicited currents via physiological AMPA-R with little agonistic effects in primary neurons.

TAK-653 enhanced electrically evoked AMPA-R-mediated EPSPs more potently than AMPA (agonist) or LY451646 (AMPA-R potentiator with a prominent agonistic effect) in brain slices.

TAK-653 improved cognition for both working memory and recognition memory.

## References

O'Donnell P, et al. *Transl Psychiatry*. 2021 May 27;11(1):325.

Suzuki A, et al. *Sci Rep*. 2021 Jul 21;11(1):15255.

Suzuki A, et al. *Sci Rep*. 2021 Jul 15;11(1):14532.

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

E-mail: tech@probechem.com