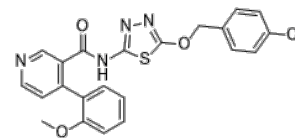


**Product Name** : AB25583  
**Cat. No.** : PC-22920  
**CAS No.** : 2565637-94-5  
**Molecular Formula** : C<sub>22</sub>H<sub>17</sub>ClN<sub>4</sub>O<sub>3</sub>S  
**Molecular Weight** : 452.91  
**Target** : DNA/RNA Synthesis  
**Solubility** : 10 mM in DMSO



CAS: 2565637-94-5

## Biological Activity

AB25583 is a potent, specific small molecule inhibitor of SF2 DNA helicase domain of **Polθ** (Polθ-hel) with IC<sub>50</sub> of 6 nM in Polθ-hel ATPase activity assay, selectively kills BRCA-deficient cells.

AB25583 shows no inhibition of WRN and RECQL5 and very minor inhibition of Bloom's (BLM) helicase.

AB25583 exhibits significantly higher potency than Novobiocin.

AB25583 shows selective killing of the BRCA2-KO cells, with little to no effect on the survival of BRCA2-WT cells, suppresses MMEJ, induces DNA damage in BRCA-deficient cells, and increases RAD51 foci in cells exposed to IR.

AB25583 exhibits synergistic activity with Olaparib in BRCA-mutant cancer cell lines.

AB25583 blocks ATPase activity of the helicase via an allosteric mechanism, inhibits Polθ-hel ATPase activity even regardless of the presence or absence of the ssDNA substrate.

## References

Ito F, et al. *Nat Commun.* 2024 Aug 14;15(1):7003.

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

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