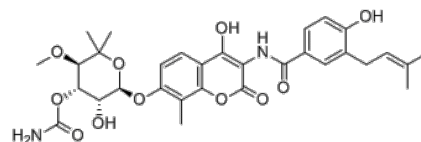


**Product Name** : Novobiocin  
**Cat. No.** : PC-49690  
**CAS No.** : 303-81-1  
**Molecular Formula** : C<sub>31</sub>H<sub>36</sub>N<sub>2</sub>O<sub>11</sub>  
**Molecular Weight** : 612.63  
**Target** : DNA/RNA Synthesis  
**Solubility** : 10 mM in DMSO



## Biological Activity

Novobiocin (NVB) is a potent, specific **DNA polymerase theta (POLθ, POLQ)** inhibitor with IC<sub>50</sub> of 24 uM, selectively kills HR-deficient tumor cells in vitro and in vivo.

Novobiocin displays no activity against six other DNA repair related enzymes HSP90AA1, TRIP13, BLM, RAD51, SMARCA1 and CHD1.

Novobiocin binds directly and specifically to the POLθ ATPase domain in vitro.

Novobiocin impairs POLθ DNA repair function and phenocopies POLθ depletion in human cells.

Novobiocin strongly and specifically suppresses the growth of HR-deficient tumors in vivo, Novobiocin (75 mg/kg, via IP, b.i.d.) kills HR-deficient tumors and overrides PARPi resistance in vivo in PDX models.

Novobiocin induces excessive DSB end resection and non-productive RAD51 foci in U2OS cells, overcomes multiple PARPi resistance mechanisms.

## References

Zhou J, et al. *Nat Cancer*. 2021 Jun;2(6):598-610.

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

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