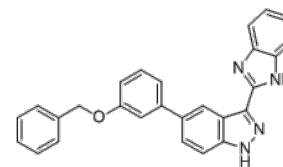


Product Name : Xist inhibitor X1
Cat. No. : PC-49693
CAS No. : 2863686-82-0
Molecular Formula : C₂₇H₂₀N₄O
Molecular Weight : 416.48
Target : Other Targets
Solubility : 10 mM in DMSO



Biological Activity

Xist inhibitor X1 is a selective small molecule inhibitor of the non-coding RNA prototype **Xist** function, binds specifically to the **RepA motif of Xist** (K_d=0.4 μM) in vitro and in vivo.

X1 disrupts the interaction between RepA and PRC2, reduces the affinity of RepA for PRC2 from a K_d of 47 to 420 nM (IC₅₀ of 30 μM) and SPEN, and for SPEN from 76 to 717 nM (IC₅₀ of 48 μM).

X1 specifically displaces two of Xist's required interacting protein partners, Polycomb repressive complex 2 (PRC2) and SPEN.

X1 did not inhibit the histone methyltransferase activity of PRC2 directly.

By interfering with PRC2 and SPEN interactions, X1 blocks histone H3 lysine-27 trimethylation (H3K27me₃) and abrogates the initiation of X-chromosome inactivation.

X1 inhibits cell differentiation and growth in a female-specific manner.

References

Rodrigo Aguilar, et al. *Nature*. 2022 Apr;604(7904):160-166.

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

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