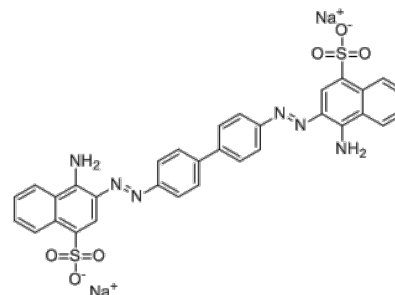


Product Name : Congo red
Cat. No. : PC-38801
CAS No. : 573-58-0
Molecular Formula : C₃₂H₂₂N₆Na₂O₆S₂
Molecular Weight : 696.664
Target : DNA/RNA Synthesis
Solubility : 10 mM in DMSO



Biological Activity

Congo red (Zinc 03830554) is a high-affinity small molecule targeting mitochondrial **DNA polymerase gamma** (Pol γ), selectively kills MLH1 deficient cancer cells.

Congo red (Zinc 03830554) binds to the Pol γ protein and potently inhibits Pol γ strand displacement and one-nucleotide incorporation DNA synthesis activities in vitro and in vivo.

Congo red (Zinc 03830554) reduced the cell proliferation of MLH1 deficient HCT116 human colon cancer cells and suppressed HCT116 xenograft tumor growth, did not affect the MLH1 proficient cell proliferation and xenograft tumor growth.

Congo red (Zinc 03830554) caused mitochondrial dysfunction and cell death by inhibiting Pol γ activity and oxidative mtDNA damage repair, increasing the production of reactive oxygen species and oxidative mtDNA damage in MLH1 deficient cells.

Congo red is red in alkaline solution and blue in acid solution and used especially as an indicator and as a biological stain.

References

Berna Somuncu, et al. *PLoS One*. 2022 Jun 3;17(6):e0268391.

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

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