# Ossirene

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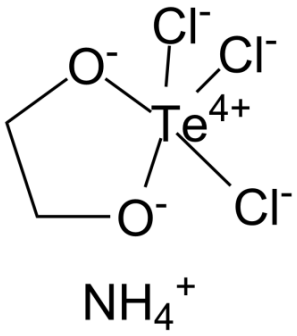
| **Cat. No.:** | HY-101019 |
| **CAS No.:** | 106566-58-9 |
| **Molecular Formula:** | $C_2H_8Cl_3NO_2Te$ |
| **Molecular Weight:** | 312.05 |
| **Target:** | Interleukin Related; Caspase |
| **Pathway:** | Immunology/Inflammation; Apoptosis |
| **Storage:** | -20°C, stored under nitrogen<br>* In solvent : -80°C, 6 months; -20°C, 1 month (stored under nitrogen) |



## BIOLOGICAL ACTIVITY

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| **Description** | Ossirene (AS101), an immunomodulatory tellurium compound, is a potent IL-1β inhibitor[1]. Ossirene abolishes phosphorylation of STAT3 by inhibiting IL-10. Ossirene potently inhibits Caspase-1 and is used for the autoimmune diseases and certain malignancies[2][3][4]. |

| **$IC_{50}$ & Target** | IL-1β | IL-10 | Caspase-1 |
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**In Vitro**

Ossirene (AS101; 1 μg/mL; for 24 hours) almost completely abrogates expression of pStat3. Ossirene may reduce expression of Bcl-2 after inhibition of Stat3 activation via IL-10 inhibition[2].

AS101 (0.5, 5 mg/mL; 24 hours) inhibits IL-1β-induced mRNA expression of inflammatory mediators in the RPE in a dose-dependent manner. AS101 inhibits IL-1β-induced mRNA expression and protein production of IL-6 and IL-8 in RPE cells.

AS101 (5 mg/mL; 1 hour) inhibits the phosphorylation of the p65 component of the NFκB complex activated by IL-1β[1].

Ossirene (0.1, 0.5, 1, 2.5 μg/mL) significantly decreases B16 melanoma, stomach adenocarcinoma, and human glioblastoma multiforme (GBM) cells proliferation[2].

AS101 (0.5 μg/mL; for 24 hours) sensitizes GBM tumor cells to paclitaxel in an IL-10-dependent manner[2].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Western Blot Analysis[2]

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| Cell Line: | B16 melanoma cells |
| Concentration: | 1 μg/mL |
| Incubation Time: | For 24 hours |
| Result: | Almost completely abrogated expression of pStat3. |

RT-PCR[1]

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| Cell Line: | ARPE19 cells |
| Concentration: | 0.5, 5 mg/mL |
| Incubation Time: | 24 hours |
| Result: | Inhibited IL-1β-induced mRNA expression of inflammatory mediators in the RPE in a dose-dependent manner. |

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| **In Vivo** | Ossirene (AS101; 0.5 mg/kg/day; IP; 25 days) sensitizes GBM tumors to paclitaxel via inhibition of IL-10, resulting in increased survival[2].<br>MCE has not independently confirmed the accuracy of these methods. They are for reference only. |

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| Animal Model: | SCID mice with GBM cells[2] |
| Dosage: | 0.5 mg/kg |
| Administration: | IP; daily; 25 days |
| Result: | Significantly increased survival of GBM tumor-bearing mice. |

## CUSTOMER VALIDATION

- Cell Death Dis. 2020 Nov 3;11(11):947.

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## REFERENCES


[1]. Sredni B, et al. Ammonium trichloro(dioxoethylene-o,o')tellurate (AS101) sensitizes tumors to chemotherapy by inhibiting the tumor interleukin 10 autocrine loop. Cancer Res. 2004 Mar 1;64(5):1843-52.

[2]. Yona Kalechman, et al. Inhibition of interleukin-10 by the Immunomodulator AS101 Reduces Mesangial Cell Proliferation in Experimental Mesangioproliferative Glomerulonephritis: Association With Dephosphorylation of STAT3. J Biol Chem. 2004 Jun 4;279(23):24724-32.

[3]. Diamond Ling, et al. The Tellurium Redox Immunomodulating Compound AS101 Inhibits IL-1β-activated Inflammation in the Human Retinal Pigment Epithelium. Br J Ophthalmol. 2013 Jul;97(7):934-8.

[4]. Yafit Hachmo, et al. The Small Tellurium Compound AS101 Ameliorates Rat Crescentic Glomerulonephritis: Association With Inhibition of Macrophage Caspase-1 Activity via Very Late Antigen-4 Inactivation. Front Immunol. 2017 Mar 7;8:240.





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