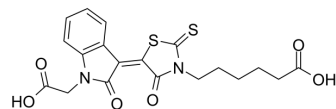


OTUB2-IN-1

Cat. No.:	HY-160768
Molecular Formula:	C ₁₉ H ₁₈ N ₂ O ₆ S ₂
Molecular Weight:	434.49
Target:	Deubiquitinase
Pathway:	Cell Cycle/DNA Damage
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	OTUB2-IN-1, a specific inhibitor of OTUB2 (K _D : ~12 μM), reduces PD-L1 protein expression in tumor cells and inhibits tumor growth by promoting robust intra-tumor infiltration of cytotoxic T lymphocytes (CTL) ^[1] .																
In Vitro	<p>OTUB2-IN-1 (0-40 μM) reduces PD-L1 levels in tumor cells (NCI-H358, SK-MES-1, and NCI-H226) in a dose-dependent manner, but it is unable to affect OTUB2 stability^[1].</p> <p>OTUB2-IN-1 (0-50 μM; 1 h) does not interfere with protein interactions between OTUB2 and PD-L1^[1].</p> <p>OTUB2-IN-1 (10 μM; 0-4 d) can't inhibit the viability of B16-F10 tumor cells^[1].</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p> <p>Cell Viability Assay^[1]</p> <table border="1"> <tr> <td>Cell Line:</td> <td>B16-F10 tumor cells</td> </tr> <tr> <td>Concentration:</td> <td>10 μM</td> </tr> <tr> <td>Incubation Time:</td> <td>0-4 d</td> </tr> <tr> <td>Result:</td> <td>OTUB2-IN-1 did not show significant inhibitory effects on the viability of B16-F10 tumor cells over a period of up to four days.</td> </tr> </table> <p>Western Blot Analysis^[1]</p> <table border="1"> <tr> <td>Cell Line:</td> <td>NCI-H358, SK-MES-1, NCI-H226</td> </tr> <tr> <td>Concentration:</td> <td>0-40 μM</td> </tr> <tr> <td>Incubation Time:</td> <td></td> </tr> <tr> <td>Result:</td> <td>Reduced PD-L1 levels in a dose-dependent manner across these cell lines, indicating effective inhibition of OTUB2's functional activity regarding PD-L1 stabilization. However, it did not affect the stability of OTUB2 itself, suggesting that the inhibitor specifically disrupts the PD-L1 regulatory function of OTUB2 without altering OTUB2 protein stability.</td> </tr> </table>	Cell Line:	B16-F10 tumor cells	Concentration:	10 μM	Incubation Time:	0-4 d	Result:	OTUB2-IN-1 did not show significant inhibitory effects on the viability of B16-F10 tumor cells over a period of up to four days.	Cell Line:	NCI-H358, SK-MES-1, NCI-H226	Concentration:	0-40 μM	Incubation Time:		Result:	Reduced PD-L1 levels in a dose-dependent manner across these cell lines, indicating effective inhibition of OTUB2's functional activity regarding PD-L1 stabilization. However, it did not affect the stability of OTUB2 itself, suggesting that the inhibitor specifically disrupts the PD-L1 regulatory function of OTUB2 without altering OTUB2 protein stability.
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In Vivo	OTUB2-IN-1 (20 mg/kg; i.p.; daily for five days) suggests the potential to enhance immune recognition and immune response of tumor cells in mice implanted with B16-F10 cells ^[1] .																

OTUB2-IN-1 20 mg/kg; i.p.; daily for five days reduces the expression of YAP and phosphorylated p65 in mice implanted with LL/2 cells; reduces phosphorylated Akt expression in mice implanted with B16-F10 cells and it reduces phosphorylated p65 expression in mice implanted with KLN205 cells^[1].

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

Animal Model:	C57BL/6 mice implanted with B16-F10 cells or LL/2 cells ^[1]
Dosage:	20 mg/kg; daily for five days
Administration:	i.p
Result:	Reduced the expression of PD-L1 on tumor cells, suggesting its potential in enhancing immune recognition and response against tumor cells. Did not significantly impact tumor cell viability directly, indicating its action might be more about modulating immune evasion mechanisms rather than cytotoxic effects. Increased the infiltration of cytotoxic T cells within the tumors, suggesting that reducing PD-L1 levels can indeed make the tumor more susceptible to immune attack.within the tumors, suggesting that reducing PD-L1 levels can indeed make the tumor more susceptible to immune attack.

REFERENCES

[1]. Ren W et al. Pharmaceutical targeting of OTUB2 sensitizes tumors to cytotoxic T cells via degradation of PD-L1. Nat Commun. 2024 Jan 2;15(1):9.

Caution: Product has not been fully validated for medical applications. For research use only.

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