

## Enavatuzumab

Cat. No.:	HY-P99361
CAS No.:	1062149-33-0
Target:	TNF Receptor
Pathway:	Apoptosis
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.

### BIOLOGICAL ACTIVITY

<b>Description</b>	<p>Enavatuzumab (PDL192; ABT-361) is a humanized IgG1 monoclonal antibody targeting the receptor of TNF-like weak inducer of apoptosis (TWEAK). TWEAK (Fn14; TNFRSF12A), the natural ligand of the TWEAK receptor (TweakR), stimulates multiple cellular responses. Enavatuzumab induces tumor growth inhibition through direct TweakR signaling and antibody dependent cell-mediated cytotoxicity (ADCC). Enavatuzumab can actively recruits and activates myeloid effectors to kill tumor cells. Enavatuzumab inhibits the growth of various human TweakR-positive cancer cell lines and xenografts in vitro and in vivo <sup>[1]</sup> <sup>[2]</sup>.</p>								
<b>In Vitro</b>	<p>Enavatuzumab (0.1-1000 ng/mL; 4 hours) induces effector cell activation and tumor cell killing in vitro<sup>[1]</sup>. Enavatuzumab (10 µg/mL; for 24 hours) results in significantly increased migration of immune effector cells toward the tumor cells in SN12C and A375 cells<sup>[1]</sup>.</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p> <p>Cell Viability Assay<sup>[1]</sup></p> <table border="1"> <tr> <td>Cell Line:</td> <td>Renal carcinoma cell line SN12C, the melanoma cell line A375, the colorectal cancer cell lines HCT116 and DLD-1</td> </tr> <tr> <td>Concentration:</td> <td>0.1, 1, 10, 100, 1000 ng/mL</td> </tr> <tr> <td>Incubation Time:</td> <td>4 hours</td> </tr> <tr> <td>Result:</td> <td>Showed potent tumor cell killing on all TweakR-positive tumor cells tested.</td> </tr> </table>	Cell Line:	Renal carcinoma cell line SN12C, the melanoma cell line A375, the colorectal cancer cell lines HCT116 and DLD-1	Concentration:	0.1, 1, 10, 100, 1000 ng/mL	Incubation Time:	4 hours	Result:	Showed potent tumor cell killing on all TweakR-positive tumor cells tested.
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<b>In Vivo</b>	<p>Enavatuzumab (10 mg/kg; IP; three times per week; 7 doses) shows diverse antitumor activities on different xenograft tumors<sup>[1]</sup>.</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p> <table border="1"> <tr> <td>Animal Model:</td> <td>6-week old SCID mice with SN12C or HCT116 or DLD-1 or A375 tumors<sup>[1]</sup></td> </tr> <tr> <td>Dosage:</td> <td>10 mg/kg</td> </tr> <tr> <td>Administration:</td> <td>IP; three times per week; 6 doses (DLD-1 model), 7 doses (SN12C model), 9 doses (A375 or HCT116 model)</td> </tr> </table>	Animal Model:	6-week old SCID mice with SN12C or HCT116 or DLD-1 or A375 tumors <sup>[1]</sup>	Dosage:	10 mg/kg	Administration:	IP; three times per week; 6 doses (DLD-1 model), 7 doses (SN12C model), 9 doses (A375 or HCT116 model)		
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**Result:**

Some TweakR-expressing cells, such as SN12C and A375, were sensitive in vivo and in vitro.

Some TweakR-expressing cell lines, such as HCT116 and DLD-1, were not sensitive to enavatuzumab treatment in vivo, though both cell lines were effectively killed via ADCC in vitro.

Up-regulated the activation markers on splenocytes in SN12C tumor-bearing mice.

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## REFERENCES

[1]. Shiming Ye, et al. Enavatuzumab, a Humanized Anti-TWEAK Receptor Monoclonal Antibody, Exerts Antitumor Activity through Attracting and Activating Innate Immune Effector Cells. *J Immunol Res.* 2017;2017:5737159.

[2]. Ludmilla de Plater, et al. Predictive gene signature of response to the anti-TweakR mAb PDL192 in patient-derived breast cancer xenografts. *PLoS One.* 2014 Nov 6;9(11):e104227.

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

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: [tech@MedChemExpress.com](mailto:tech@MedChemExpress.com)

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA