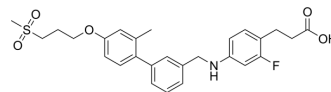


## TUG-905

<b>Cat. No.:</b>	HY-117787
<b>CAS No.:</b>	1390641-90-3
<b>Molecular Formula:</b>	C <sub>27</sub> H <sub>30</sub> FNO <sub>3</sub> S
<b>Molecular Weight:</b>	499.59
<b>Target:</b>	Free Fatty Acid Receptor
<b>Pathway:</b>	GPCR/G Protein
<b>Storage:</b>	Please store the product under the recommended conditions in the Certificate of Analysis.



### BIOLOGICAL ACTIVITY

<b>Description</b>	TUG-905 is a potent GPR40 agonist with an pEC <sub>50</sub> value of 7.03. TUG-905 increases hypothalamic cell proliferation and survival. TUG-905 reduces body mass and increases the POMC mRNA expression <sup>[1][2]</sup> .								
<b>IC<sub>50</sub> &amp; Target</b>	pEC <sub>50</sub> : 7.03 (GPR40) <sup>[1]</sup>								
<b>In Vitro</b>	<p>TUG-905 (10 μM; 7, 13 days) increases cell proliferation and DCX mRNA levels of the neuroblast marker<sup>[2]</sup>.</p> <p>TUG-905 (10 μM; 2, 4, 24 h) increases GPR40, BDNF gene expression in Neuro2a (murine neuroblastoma) cells<sup>[2]</sup>.</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p> <p>Western Blot Analysis<sup>[2]</sup></p> <table border="1"> <tr> <td>Cell Line:</td> <td>DCX/GFAP positive cells (neurospheres from mouse hypothalamic tissue)</td> </tr> <tr> <td>Concentration:</td> <td>10 μM</td> </tr> <tr> <td>Incubation Time:</td> <td>7 days</td> </tr> <tr> <td>Result:</td> <td>Increased mRNA levels of the neuroblast marker, DCX, as well as the number of DCX-immunopositive cells.</td> </tr> </table>	Cell Line:	DCX/GFAP positive cells (neurospheres from mouse hypothalamic tissue)	Concentration:	10 μM	Incubation Time:	7 days	Result:	Increased mRNA levels of the neuroblast marker, DCX, as well as the number of DCX-immunopositive cells.
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Concentration:	10 μM								
Incubation Time:	7 days								
Result:	Increased mRNA levels of the neuroblast marker, DCX, as well as the number of DCX-immunopositive cells.								
<b>In Vivo</b>	<p>TUG-905 (2.0 μL, 1.0 mM; i.c.v.; twice a day for 6 days) reduces body mass and exhibited a trend toward reducing caloric intake<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 weeks, Male Swiss mice<sup>[1]</sup></td> </tr> <tr> <td>Dosage:</td> <td>2.0 μL, 1.0 mM</td> </tr> <tr> <td>Administration:</td> <td>I.c.v.; twice a day for 6 days</td> </tr> <tr> <td>Result:</td> <td>Reduced body mass and exhibited a trend toward reducing caloric intake, and induced an increase of IL10 and IL6 in the hypothalamus, and increased the POMC mRNA expression.</td> </tr> </table>	Animal Model:	6 weeks, Male Swiss mice <sup>[1]</sup>	Dosage:	2.0 μL, 1.0 mM	Administration:	I.c.v.; twice a day for 6 days	Result:	Reduced body mass and exhibited a trend toward reducing caloric intake, and induced an increase of IL10 and IL6 in the hypothalamus, and increased the POMC mRNA expression.
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## REFERENCES

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- [1]. Dragano NR, et al. Polyunsaturated fatty acid receptors, GPR40 and GPR120, are expressed in the hypothalamus and control energy homeostasis and inflammation. *J Neuroinflammation*. 2017 Apr 26;14(1):91.
- [2]. Engel DF, et al. Activation of GPR40 induces hypothalamic neurogenesis through p38- and BDNF-dependent mechanisms. *Sci Rep*. 2020 Jul 6;10(1):11047.
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**Caution: Product has not been fully validated for medical applications. For research use only.**

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