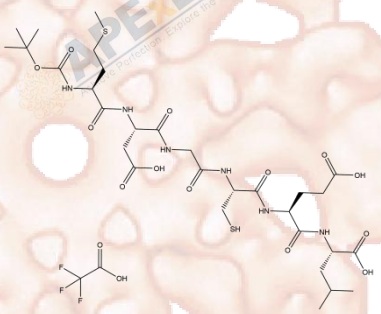
Product Data Sheet

Box5 TFA



Cat. No.:	A8958
CAS No.:	1206604-29-6
Formula:	C32H51F3N6O15S2
M.Wt:	880.90
Synonyms:	/
Target:	Wnt
Pathway:	Wnt5a-mediated signaling
Storage:	Store at -20° C

Solvent & Solubility

In Vitro

Soluble in DMSO

Preparing Stock Solutions

Concentration / Solvent / Mass	1mg	5mg	10mg
1 mM	1.1352 mL	5.6760 mL	11.3520 mL
5 mM	0.2270 mL	1.1352 mL	2.2704 mL
10 mM	0.1135 mL	0.5676 mL	1.1352 mL

Please refer to the solubility information to select the appropriate solvent.

Biological Activity

Shortsummary

Box5 (CAS No. 1206604-29-6) is a Wnt5a-derived hexapeptide (Met-Asp-Gly-Cys-Glu-Leu) modified with a t-boc group. It selectively antagonizes Wnt5a-mediated signaling in the non-canonical Wnt pathway, without significantly affecting other G protein-coupled receptors like endothelin-1 or muscarinic receptors. In melanoma cells, Box5 significantly inhibits Wnt5a-mediated migration at 100 μM, though its IC50 is not clearly reported. Mechanistically, Box5 directly inhibits Wnt5a-induced intracellular Ca^{2+} signaling and blocks downstream PKC activation by preventing MARCKS phosphorylation. Both pathways are crucial for Wnt5a-driven melanoma cell adhesion, migration, and invasion. Box5 thus weakens Wnt5a-dependent metastatic behaviors in melanoma cells, but does not affect migration in cells lacking endogenous Wnt5a. References： [1] Jenei V, Sherwood V, Howlin J, Linnskog R, Säfholm A, Axelsson L,

	Andersson T. A t-butyloxycarbonyl-modified Wnt5a-derived hexapeptide functions as a potent antagonist of Wnt5a-dependent melanoma cell invasion. Proc Natl Acad Sci U S A. 2009 Nov 17;106(46):19473-8. doi: 10.1073/pnas.0909409106. Epub 2009 Nov 9. PMID: 19901340; PMCID: PMC2780806.
IC_{50} & Target	

In Vitro

Cell Viability Assay

Cell Line:	A2058 cells
Preparation method:	For treatments with Box5, the cells were preincubated for 40 min with gentle agitation, and stimulated as required upon seeding.
Reacting conditions:	50-400 μM, 40 min
Applications:	Box5 TFA (100 μM) decreases the expression of rWnt5a (0.1 μg/mL) stimulated p-MARCKS in A2058 cells.

In Vivo

Animal experiment

Animal models:	C57BL/6 mice
Dosage form:	0.5 μg/mL 10 μL, twice a week for 4 weeks, injected via tracheal drip
Applications:	C57BL/6 mice (6–8w) were randomly divided into 4 groups of 12 mice each. PBS (20 μL), PM2.5 (100 μg/20 μL), BOX5 (0.5 μg/mL 10 μL), and PM2.5+BOX5 (100 μg/20 μL+0.5 μg/mL 10 μL) were injected via tracheal drip twice a week for 4 weeks of continuous exposure. Lung tissue was collected for subsequent experiments.
Preparation method:	BOX5 did not change basal Wnt5a expression, while BOX5 alleviated PM2.5-induced airway wall thickening and the smooth muscle layer thickness of mice, attenuated PM2.5-induced HBSMC proliferation.
Other notes:	The technical data provided above is for reference only.

Product Citations

See more customer validations on www.apexbt.com.

References

1.Jenei V, et al. A t-butyloxycarbonyl-modified Wnt5a-derived hexapeptide functions as a potent antagonist of Wnt5a-dependent melanoma cell invasion. Proc Natl Acad Sci U S A. 2009 Nov 17;106(46):19473-8.

Caution

FOR RESEARCH PURPOSES ONLY.

NOT FOR HUMAN, VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

Specific storage and handling information for each product is indicated on the product datasheet. Most APExBIO products are stable under the recommended conditions. Products are sometimes shipped at a temperature that differs from the recommended storage temperature. Shortterm storage of many products are stable in the short-term at temperatures that differ from that required for long-term storage. We ensure that the product is shipped under conditions that will maintain the quality of the reagents. Upon receipt of the product, follow the storage recommendations on the product data sheet.

APExBIO Technology

www.apexbt.com

7505 Fannin street, Suite 410, Houston, TX 77054.

Tel: +1-832-696-8203 | Fax: +1-832-641-3177 | Email: info@apexbt.com