

TAK-683

## Chemical Properties

CAS No. : 872719-49-8

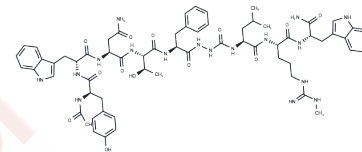
Formula: C64H83N17O13

Molecular Weight: 1298.45

Keep away from moisture

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Actual storage temperature shall be subject to the COA.



## Biological Description

Description	TAK-683 is an effective full KISS1 receptor agonist (IC <sub>50</sub> =170 pM). TAK-683 is a nonapeptide metastatin analog, shows agonistic activities to KISS1R (EC <sub>50</sub> : 0.96 nM and 1.6 nM for human and rat, respectively).
Targets(IC <sub>50</sub> )	Others, Kisspeptin
In vitro	In rat KISS1R-expressing Chinese hamster ovary cells, TAK-683 exhibits an IC <sub>50</sub> value (95% CI) from receptor binding assays is 150-180 pM and EC <sub>50</sub> value (95% CI) from Ca <sup>2+</sup> mobilization assays is 180 (159-203) pM [4].
In vivo	TAK-683 (subcutaneous injection; 0.008, 0.08, 0.8, or 8 μmol/ml/kg; once daily; 7 days) initially increases plasma luteinizing hormone and testosterone levels, but reduces plasma hormones and genital organ weights after 7 days. In a prostate cancer model with TAK-683 (subcutaneous injection; 2.1-21 nmol/kg/day; once daily; 12 weeks), serum PSA concentrations decrease below detection levels (0.5 ng/ml) in all rats by day 14. TAK-683 (subcutaneous injection; 10, 30, or 100 pmol/h; once daily; 4 weeks) shows promise in suppressing reproductive functions and hormone-related diseases such as prostate cancer [3][4].

### Preparing Stock Solutions

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	1mg	5mg	10mg
1 mM	0.7701 mL	3.8507 mL	7.7015 mL
5 mM	0.154 mL	0.7701 mL	1.5403 mL
10 mM	0.077 mL	0.3851 mL	0.7701 mL
50 mM	0.0154 mL	0.077 mL	0.154 mL

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Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

### Reference

- Nishizawa N, et al. Design and Synthesis of an Investigational Nonapeptide KISS1 Receptor (KISS1R) Agonist, Ac-d-Tyr-Hydroxyproline (Hyp)-Asn-Thr-Phe-azaGly-Leu-Arg(Me)-Trp-NH<sub>2</sub> (TAK-448), with Highly Potent Testosterone-Suppressive Activity and Excellent Water Solubility. *J Med Chem.* 2016 Oct 13;59(19):8804-8811. Epub 2016 Sep 21.
- Asami T, et al. Design, synthesis, and biological evaluation of novel investigational nonapeptide KISS1R agonists with testosterone-suppressive activity. *J Med Chem.* 2013 Nov 14;56(21):8298-307.
- Matsui H, et al. Pharmacologic profiles of investigational kisspeptin/metastatin analogues, TAK-448 and TAK-683, in adult male rats in comparison to the GnRH analogue leuprolide. *Eur J Pharmacol.* 2014 Jul 15;735:77-85.
- Hisanori MATSUI, et al. Functional Analyses of Kisspeptin in Controlling Gonadal Functions

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