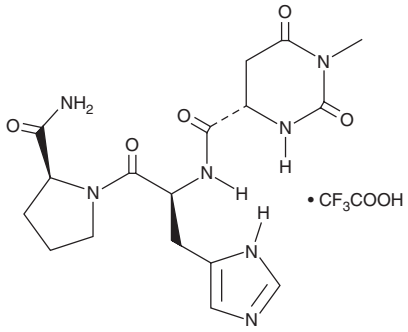
PRODUCT INFORMATION

Taltirelin (trifluoroacetate salt)

Item No. 46438

CAS Registry No.:	1549593-18-1
Formal Name:	hexahydro-1-methyl-2,6-dioxo-4S-pyrimidinecarbonyl-L-histidyl-L-prolinamide, methyl ester, monotrifluoroacetate salt
Synonym:	TA-0910
MF:	$C_{17}H_{23}N_7O_5 \bullet CF_3COOH$
FW:	519.4
Purity:	≥98%
Supplied as:	A solid
Storage:	-20°C
Stability:	≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Taltirelin (trifluoroacetate salt) is supplied as a solid. A stock solution may be made by dissolving the taltirelin (trifluoroacetate salt) in the solvent of choice, which should be purged with an inert gas. Taltirelin (trifluoroacetate salt) is sparingly soluble (1-10 mg/ml) in ethanol and DMSO.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of taltirelin (trifluoroacetate salt) can be prepared by directly dissolving the solid in aqueous buffers. Taltirelin (trifluoroacetate salt) is soluble (≥10 mg/ml) in PBS (pH 7.2). We do not recommend storing the aqueous solution for more than one day.

Description

Taltirelin is a superagonist of thyrotropin-releasing hormone (TRH) receptors and a derivative of TRH.[1] It increases intracellular calcium levels in HEK293 cells expressing the mouse TRH_1 or TRH_2 receptors (EC_{50}s = 2 and 0.12 nM, respectively).[2] Taltirelin (5 µM) reduces rotenone-induced production of reactive oxygen species (ROS) and MPP^+-induced increases in the levels of phosphorylated tau and α-synuclein fragments in SH-SY5Y cells.[3] It also prevents MPP^+-induced decreases in the viability of SH-SY5Y cells. Taltirelin (1 mg/kg) improves motor function in a mouse model of Parkinson's disease induced by rotenone (Item No. 13995). It also reduces mechanical allodynia in a mouse model of inflammatory pain, an effect that can be prevented by yohimbine (Item No. 19869) or WAY-100635 (Item No. 14599).[4]

References

1. Thirunarayanan, N., Raaka, B.M., and Gershengorn, M.C. Taltirelin is a superagonist at the human thyrotropin-releasing hormone receptor. *Front. Endocrinol. (Lausanne)* **3**, 120 (2012).
2. Thirunarayanan, N., Nir, E.A., Raaka, B.M., *et al.* Thyrotropin-releasing hormone receptor type 1 (TRH-R1), not TRH-R2, primarily mediates taltirelin actions in the CNS of mice. *Neuropsychopharmacology* **38(6)**, 950-956 (2013).
3. Zheng, C., Chen, G., Tan, Y., *et al.* TRH analog, taltirelin protects dopaminergic neurons from neurotoxicity of MPTP and rotenone. *Front. Cell. Neurosci.* **12**, 485 (2018).
4. Eto, K., Kim, S.K., Nabekura, J., *et al.* Taltirelin, a thyrotropin-releasing hormone analog, alleviates mechanical allodynia through activation of descending monoaminergic neurons in persistent inflammatory pain. *Brain Res.* **1414**, 50-57 (2011).

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent *via* email to your institution.

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CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.**CAYMANCHEM**.COM