

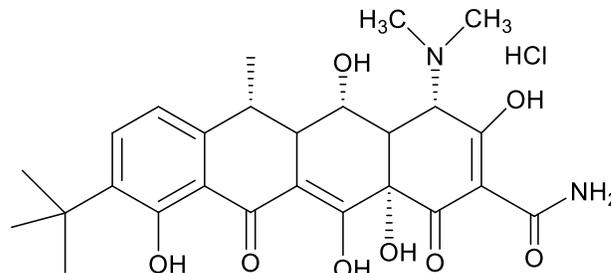
9-tert-Butyl Doxycycline-HCl

Catalog number: B-0801

Molecular Formula: $C_{26}H_{33}ClN_2O_8$

MW: 536.19

CAS: 233585-94-9



Solubility: Methanol, Water at 10 mg/mL, gentle warming

Storage and Handling: Store dry at -20°C . Stock solutions should be stored frozen (-20°C or below).

Background: 9-tert-Butyl Doxycycline is a Tet On/Off system agonist capable of activating and acting as an inducer for the tetracycline-transactivator (tTA) and reverse tTA (rtTA), and tTA-responsive promoters (P_{tets}), herein known as the Tet switch. The compound is able to activate the Tet switch with approximately 10-fold greater efficacy, especially in lipophilic environments such as the brain and lung and other similar biocompartments. The compound is freely soluble in water, and can be administered IV, IP and in the drinking water of experimental animals, allowing for ready dosing. The compound also has found use in studying hypoxia-regulated gene expression on cell survival using the tetracycline-inducible (tet-on) system, where exposure to the inducing ligand doxycycline (dox) inhibited caspase-3 cleavage in mitochondria in control samples.

References: 1) Zhu, P. *et al.*, "Silencing and Un-silencing of Tetracycline-Controlled Genes in Neurons", PLoS ONE. 2007; 2(6): e533. 2) Halterman, M.W. "An Improved Method for the Study of Apoptosis-Related Genes Using the Tet-On System" J. Biomol. Screen. 2011; 16(3): 332-337. 3) Halterman, M.W. "An Improved Method for the Study of Apoptosis-Related Genes Using the Tet-On System" J. Biomol. Screen. 2011; 16(3): 332-337. 4) Jiang, D. et al. "Airway Epithelial NF- κ B Activation Promotes Mycoplasma pneumoniae Clearance in Mice" PLoS ONE. 2012; 7(12): e52969. 5) McAvooy, K. et al. "Rejuvenating the dentate gyrus with stage-specific expansion of adult-born neurons to enhance memory precision in adulthood and aging" Neuroscience 2014, Abstract # DP09.08/DP8. 6) Furutachi, S. et al. "Slowly dividing neural progenitors are an embryonic origin of adult neural stem cells", Nature Medicine, 2015; doi:10.1038/nm.3989.

Hazardous Properties and Cautions: The toxicological and pharmacological properties of this compound are not fully known. For further information see the MSDS on request. This product is manufactured and shipped only in small quantities, intended for research and development in a laboratory utilizing prudent procedures for handling chemicals of unknown toxicity, under the supervision of persons technically qualified to evaluate potential risks and authorized to enforce appropriate health and safety measures. As with all research chemicals, precautions should be taken to avoid unnecessary exposures or risks.

Warranty and Disclaimer: Echelon warrants the product conforms to the specifications stated herein. In the event of nonconformity, Echelon will replace products or refund purchase price, at its sole option, and Echelon shall not be responsible for any other loss or damage, whether known or foreseeable to Echelon. No other warranties apply, express or implied, including but not limited to warranty of fitness for any purpose or implied warranty of merchantability. Purchaser is solely responsible for all consequences of its use of the product and Echelon assumes no responsibility therefore, including success of purchaser's research and development, or health or safety of any uses of the product.

