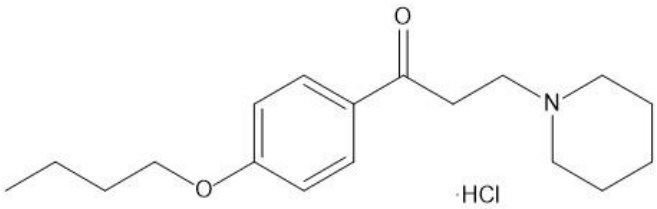
Catalog # 10-3895

Dyclonine HCl

CAS# 536-43-6

4'-Butoxy-3-piperidinopropiophenone, hydrochloride

Lot # X109148



A topical anesthetic which has been used for oral and throat analgesia.[1] Enhances neuronal mitochondrial function, potentiating respiration and providing protection against insults associated with neurodegenerative disorders.[2] Inhibits aldehyde dehydrogenase ALDH3A1 resulting in accumulation of 4-hydroxynonenal, which renders head and neck squamous cell carcinoma cells sensitive to the cystine-glutamate antiporter inhibitor, sulfasalazine.[3] Rescues frataxin deficiency in animal models as well as in buccal cells of patients with Friedreich's Ataxia.[4] Enhances the cytotoxic effect of proteasome inhibitors MG-132[5] and bortezomib[6] in cancer cells.

1) Groeben *et al*. (2001), *Airway anesthesia alone does not explain attenuation of histamine-induced bronchospasm by local anesthetics: a comparison of lidocaine, ropivacaine, and dyclonine*; Anesthesiology., **94** 423
2) Boglarka *et al*. (2020), *High-Throughput Small Molecule Screen Identifies Modulators of Mitochondrial Function in Neurons*; iScience, **23** 100931
3) Okazaki *et al*. (2018), *Synthetic lethality of the ALDH3A1 inhibitor dyclonine and xCT inhibitors in glutathione deficiency-resistant cancer cells*; Oncotarget, **9** 33832
4) Sahdeo *et al.* (2014), *Dyclonine rescues frataxin deficiency in animal models and buccal cells of patients with Friedriech's ataxia;* Hum. Mol. Genet., **23** 6848
5) Ju *et al*. (2009), *Dyclonine and alverine citrate enhance the cytotoxic effects of proteasome inhibitor MG132 on breast cancer cells*; J. Mol. Med., **23** 205
6) Ju *et al*. (2014), *Dyclonine enhances the cytotoxic effect of proteasome inhibitor bortezomib in multiple myeloma cells*; Mol. Med. Rep., **10** 2609

PHYSICAL DATA

Molecular Weight:	325.87
Molecular Formula:	$C_{18}H_{27}NO_2 \cdot HCl$
Purity:	98% by HPLC
	NMR: (Conforms)
Solubility:	DMSO (up to 20 mg/ml) or Water (up to 25 mg/ml)
Physical Description:	White solid
Storage and Stability:	Store as supplied desiccated at room temperature for up to 2 years from the date of purchase. Solutions in DMSO or distilled water may be stored at -20°C for up to 2 months.

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