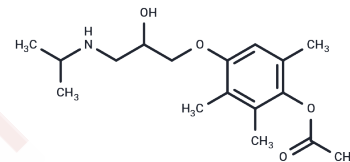


## Metipranolol

### Chemical Properties

CAS No. : 22664-55-7  
 Formula: C<sub>17</sub>H<sub>27</sub>NO<sub>4</sub>  
 Molecular Weight: 309.4  
 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	Metipranolol (Betamann) is a type of $\beta$ - Adrenergic receptors ( $\beta$ - A potent antagonist of adrenergic receptor on guinea pig atria $\beta$ 1- Adrenergic receptors and rat uterus $\beta$ The 2-adrenergic receptor exhibited the beta blocking potentials (pA <sub>2</sub> ) of 8.3 and 8.4, respectively. It is also a potent substituent in the 3H DHA binding assay, with a ligand concentration of 0.7 nM and a K <sub>i</sub> of 39 ± 24 nM.
Targets(IC50)	Adrenergic Receptor
In vivo	Metipranolol applied as eye drops promoted cone photoreceptor function in retinas of rd10 mice greater than subcutaneously injected metipranolol. The reduced nitrosative damage and rescue of functional loss of photoreceptors in rd10 mice suggests that metipranolol, a drug with established ocular safety and tolerability, may have potential for treating patients with retinitis pigmentosa[1].

### Solubility Information

Solubility	DMSO: 25 mg/mL (80.8 mM), Sonication is recommended. ( < 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 2 mg/mL (6.46 mM), Sonication is recommended. <i>Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.</i>

### Preparing Stock Solutions

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	1mg	5mg	10mg
1 mM	3.2321 mL	16.1603 mL	32.3206 mL
5 mM	0.6464 mL	3.2321 mL	6.4641 mL
10 mM	0.3232 mL	1.616 mL	3.2321 mL
50 mM	0.0646 mL	0.3232 mL	0.6464 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

Y Kanan, Khan M , Lorenc V E , et al. Metipranolol Promotes Structure and Function of Retinal Photoreceptors in the rd10 Mouse Model of Human Retinitis Pigmentosa[.]. Journal of Neurochemistry, 2018, 148.

Battershill P E , Sorkin E M . Ocular metipranolol. A preliminary review of its pharmacodynamic and pharmacokinetic properties, and therapeutic efficacy in glaucoma and ocular hypertension.[.]. Drugs, 1988, 36(5): 601.

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