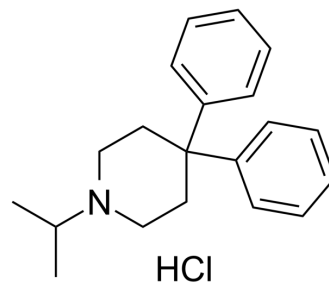


## Prodipine hydrochloride

<b>Cat. No.:</b>	HY-101605
<b>CAS No.:</b>	31314-39-3
<b>Molecular Formula:</b>	C <sub>20</sub> H <sub>26</sub> ClN
<b>Molecular Weight:</b>	315.88
<b>Target:</b>	Dipeptidyl Peptidase
<b>Pathway:</b>	Metabolic Enzyme/Protease
<b>Storage:</b>	4°C, sealed storage, away from moisture * In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



### BIOLOGICAL ACTIVITY

<b>Description</b>	Prodipine, a diphenyl-phosphonate derivative. The IC <sub>50</sub> s of Prodipine for purified and plasma Dipeptidyl peptidase IV (DPP IV) from the rabbit are 4.5 μM and 30 μM, respectively.
<b>IC<sub>50</sub> &amp; Target</b>	IC <sub>50</sub> : 4.5 μM (purified DPP IV), 30 μM (plasma DPP IV) <sup>[1]</sup>
<b>In Vitro</b>	Prodipine, a diphenyl-phosphonate derivative selected from a group of slow-binding irreversible inhibitors of this enzyme. The IC <sub>50</sub> values of Prodipine for purified and plasma DPP IV from the rabbit are 4.5 μM and 30 μM, respectively <sup>[1]</sup> . MCE has not independently confirmed the accuracy of these methods. They are for reference only.
<b>In Vivo</b>	Male rabbits weighing 3-4 kg receive a single intravenous injection with 10 mg Prodipine or saline. After 1 hr, plasma DPP IV activity has decreased to less than 20% of the preinjection value and remains unchanged during a 24 hr observation period. A profound and long-lasting inhibition of plasma DPP IV activity is observed in the treated animals (1, 5 or 10 mg). It takes 5 to 8 days to reach half of the pretreatment DPP IV activity and generally more than 20 days for a complete recovery <sup>[1]</sup> . MCE has not independently confirmed the accuracy of these methods. They are for reference only.

### PROTOCOL

<b>Kinase Assay</b> <sup>[1]</sup>	Dipeptidyl peptidase IV activity is determined using the fluorogenic substrate Gly-Pro-4-methoxy-2-naphthylamide. Hydrolysis of L-Ala-4-methoxy-2-naphthylamide in 60 mM phosphate buffer pH 7.4 is chosen for the determination of aminopeptidase M activity. The intramolecularly quenched fluorogenic substrate Lys (2,4 dinitrophenyl)-Pro-Pro-NH-CH <sub>2</sub> -CH <sub>2</sub> -NH <sub>2</sub> -aminobenzoyl-2HCl is used to assay aminopeptidase P activity. Prolol oligopeptidase (PO) is measured with N-benzyloxycarbonyl-Gly-Pro-7-amino-4-methylcoumarin. One unit of enzymatic activity is defined as the amount of enzyme catalyzing the formation of 1 μmol of assay product per minute under the conditions used <sup>[1]</sup> . MCE has not independently confirmed the accuracy of these methods. They are for reference only.
<b>Animal Administration</b> <sup>[1]</sup>	Rabbits <sup>[1]</sup> Male New Zealand white rabbits (3-4 kg) are used. EXPERIMENT 1 The rabbits (n=1 for each condition) receive a single iv. injection of 10 mg Prodipine or saline. Blood samples are taken 5 min before injection and 30 min, 1 hr, 2 hr, and 24 hr after the treatment. EXPERIMENT 2 The rabbits (n=1 for each condition) receive a single i.v. bolus injection of saline or are treated with 1, 5, or 10 mg Prodipine (also in a single i.v. bolus) at time 0. The animals are kept under observation for 40 days. At several time points

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(-5 min, 4 hr, and at days 1, 2, 3, 6, 12, 21, and 40), blood samples are taken and body weight determined. Rabbits are killed with pentobarbital after termination of the observation period.  
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

## REFERENCES

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[1]. De Meester I, et al. In vivo inhibition of dipeptidyl peptidase IV activity by pro-pro-diphenyl-phosphonate (Prodipine). *Biochem Pharmacol.* 1997 Jul 1;54(1):173-9.

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**Caution: Product has not been fully validated for medical applications. For research use only.**

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