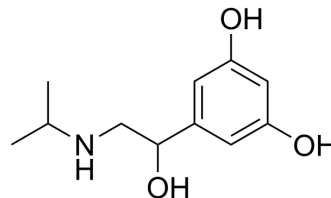


## Metaproterenol

Cat. No.:	HY-B1276A
CAS No.:	586-06-1
Molecular Formula:	C <sub>11</sub> H <sub>17</sub> NO <sub>3</sub>
Molecular Weight:	211.26
Target:	Adrenergic Receptor
Pathway:	GPCR/G Protein; Neuronal Signaling
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



### BIOLOGICAL ACTIVITY

<b>Description</b>	Metaproterenol (Orciprenaline) is a direct-acting sympathomimetic and a $\beta$ 2-adrenergic receptor ( $\beta$ 2AR) agonist with an IC <sub>50</sub> of 68 nM. Metaproterenol also has anti-inflammatory activity <sup>[1][2]</sup> .																
<b>IC<sub>50</sub> &amp; Target</b>	$\beta$ adrenergic receptor																
<b>In Vitro</b>	<p>Metaproterenol (10 <math>\mu</math>M; 74 hours; THP-1 cells and bone marrow macrophages) treatment enhances <math>\beta</math>-arrestin2 and its interaction with I<math>\kappa</math>B<math>\alpha</math> in high glucose-induced THP-1 cells and bone marrow macrophages<sup>[1]</sup>.</p> <p>Metaproterenol (10 <math>\mu</math>M; 74 hours; THP-1 cells and bone marrow macrophages) treatment leads to downregulation of NF-<math>\kappa</math>B in high glucose-induced THP-1 cells and bone marrow macrophages<sup>[1]</sup>.</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p> <p>Western Blot Analysis<sup>[1]</sup></p> <table border="1"> <tr> <td>Cell Line:</td> <td>THP-1 cells and bone marrow macrophages</td> </tr> <tr> <td>Concentration:</td> <td>10 <math>\mu</math>M</td> </tr> <tr> <td>Incubation Time:</td> <td>74 hours</td> </tr> <tr> <td>Result:</td> <td>Enhanced <math>\beta</math>-arrestin2 and its interaction with I<math>\kappa</math>B<math>\alpha</math>.</td> </tr> </table> <p>RT-PCR<sup>[1]</sup></p> <table border="1"> <tr> <td>Cell Line:</td> <td>THP-1 cells and bone marrow macrophages</td> </tr> <tr> <td>Concentration:</td> <td>10 <math>\mu</math>M</td> </tr> <tr> <td>Incubation Time:</td> <td>74 hours</td> </tr> <tr> <td>Result:</td> <td>Led to downregulation of NF-<math>\kappa</math>B.</td> </tr> </table>	Cell Line:	THP-1 cells and bone marrow macrophages	Concentration:	10 $\mu$ M	Incubation Time:	74 hours	Result:	Enhanced $\beta$ -arrestin2 and its interaction with I $\kappa$ B $\alpha$ .	Cell Line:	THP-1 cells and bone marrow macrophages	Concentration:	10 $\mu$ M	Incubation Time:	74 hours	Result:	Led to downregulation of NF- $\kappa$ B.
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<b>In Vivo</b>	<p>Treatment of Zucker diabetic fatty rats with Metaproterenol for 12 weeks attenuates monocyte activation as well as pro-inflammatory and pro-fibrotic responses in the kidneys and heart. Thus, Metaproterenol might has protective effects against diabetic renal and cardiovascular complications<sup>[1]</sup>.</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>																

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## REFERENCES

- [1]. Noh H, et al. Beta 2-adrenergic receptor agonists are novel regulators of macrophage activation in diabetic renal and cardiovascular complications. *Kidney Int.* 2017 Jul;92(1):101-113.
- [2]. Ibrahim FA, et al. Highly sensitive spectrofluorimetric method for rapid determination of orciprenaline in biological fluids and pharmaceuticals. *Luminescence.* 2019 Feb;34(1):77-83.
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**Caution: Product has not been fully validated for medical applications. For research use only.**

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: [tech@MedChemExpress.com](mailto:tech@MedChemExpress.com)

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA