

Gap19

Cat. No.:	HY-P1136
CAS No.:	1507930-57-5
Molecular Formula:	C ₅₅ H ₉₆ N ₁₄ O ₁₃
Molecular Weight:	1161.44
Sequence Shortening:	KQIEIKKFK
Target:	Gap Junction Protein
Pathway:	Cytoskeleton
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.

BIOLOGICAL ACTIVITY

Description	Gap19, a peptide derived from nine amino acids of the Cx43 cytoplasmic loop (CL), is a potent and selective connexin 43 (Cx43) hemichannel blocker. Gap19 inhibits hemichannels caused by preventing intramolecular interactions of the C-terminus (CT) with the CL. Gap19 is not blocking GJ channels or Cx40/pannexin-1 hemichannels. Gap19 has protective effects against myocardial ^{[1][2]} .									
IC₅₀ & Target	Cx43 Hemichannel ^[1]									
In Vitro	<p>Gap19 (250 μM; for 30 min) decreases mitochondrial potassium uptake^[1].</p> <p>Gap19 (400 μM) inhibits unitary hemichannel currents in HeLa-Cx43 cells^[2].</p> <p>Gap19 (100 μM) inhibits hemichannel unitary currents in ventricular cardiomyocytes^[2].</p> <p>Gap19 (250 μM, 30 min) protects against myocardial ischemia/reperfusion injury in vitro and in vivo^[2].</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>									
In Vivo	<p>Gap19 (iv; 25 mg/kg; 10 min before ligation) significantly reduces the infarct size by approximately one-fifth^[2].</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p> <table border="1"> <tr> <td>Animal Model:</td> <td>C57/BL6 mice^[2]</td> </tr> <tr> <td>Dosage:</td> <td>25 mg/kg</td> </tr> <tr> <td>Administration:</td> <td>IV; 10 min before ligation</td> </tr> <tr> <td>Result:</td> <td>Significantly reduced the infarct size by approximately one-fifth.</td> </tr> </table>		Animal Model:	C57/BL6 mice ^[2]	Dosage:	25 mg/kg	Administration:	IV; 10 min before ligation	Result:	Significantly reduced the infarct size by approximately one-fifth.
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CUSTOMER VALIDATION

- Oral Dis. 2023 Oct 9.
- Research Square Print. 2022 Aug.

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REFERENCES

- [1]. Boengler K, et al. Connexin 43 impacts on mitochondrial potassium uptake. *Front Pharmacol*. 2013 Jun 6;4:73.
- [2]. Wang N, et al. Selective inhibition of Cx43 hemichannels by Gap19 and its impact on myocardial ischemia/reperfusion injury. *Basic Res Cardiol*. 2013 Jan;108(1):309.
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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

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