# Gap 26

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|---|---|
| **Cat. No.:** | HY-P1082 |
| **CAS No.:** | 197250-15-0 |
| **Molecular Formula:** | $C_{70}H_{106}N_{19}O_{19}S$ |
| **Molecular Weight:** | 1550.78 |
| **Sequence:** | Val-Cys-Tyr-Asp-Lys-Ser-Phe-Pro-Ile-Ser-His-Val-Arg |
| **Sequence Shortening:** | VCYDKSFPISHVR |
| **Target:** | Gap Junction Protein |
| **Pathway:** | Cytoskeleton |
| **Storage:** | Sealed storage, away from moisture and light<br>Powder -80°C 2 years<br>-20°C 1 year<br>* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture and light) |

VCYDKSFPISHVR

## SOLVENT & SOLUBILITY

**In Vitro**

$H_2O$ : 50 mg/mL (32.24 mM; Need ultrasonic)

**Preparing Stock Solutions**

| Solvent / Mass / Concentration | 1 mg | 5 mg | 10 mg |
|---|---|---|---|
| 1 mM | 0.6448 mL | 3.2242 mL | 6.4484 mL |
| 5 mM | 0.1290 mL | 0.6448 mL | 1.2897 mL |
| 10 mM | 0.0645 mL | 0.3224 mL | 0.6448 mL |

Please refer to the solubility information to select the appropriate solvent.

**In Vivo**

1. Add each solvent one by one: PBS
   Solubility: 100 mg/mL (64.48 mM); Clear solution; Need ultrasonic

## BIOLOGICAL ACTIVITY

**Description**

Gap 26 is a connexin mimetic peptide, composed of residue numbers 63-75 of the first extracellular loop of connexin 43 (gap junction blocker), containing the SHVR amino acid motif[1].

**$IC_{50}$ & Target**

Gap Junction Protein[1]

**In Vitro**

Gap 26 (0.25 mg/mL, 30 min) reduces the wave size in the three cell lines (RBE4, SV-ARBEC and ECV304). Gap 26 (0.25 mg/mL, 30 min) completely abolishes the InsP3-triggered ATP response and reduced the ATP release to below the control level, indicating that the basal ATP release is also affected[1].
?Gap 26 does indeed significantly inhibit our InsP3-triggered intercellular calcium waves, but it did not have any effect on

dye coupling through junctional channels as evidenced by the FRAP experiments, despite the fact that connexin 43 was present in the cell lines used[1].

?Gap 26 (100-300 μM) dose-dependently reduces the rhythmic responses of rabbit superior mesenteric arteries, with $IC_{50}$ of 28.4 ± 3.4 μM[2].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

## CUSTOMER VALIDATION

- Cell Metab. 2021 Feb 2;33(2):283-299.e9.
- Biomed Pharmacother. 2022 Apr 22;150:112973.
- ACS Chem Biol. 2020 Jun 19;15(6):1392-1400.
- Lab Invest. 2021 Sep 14.
- Toxicology. 2022 Aug 4;153283.

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## REFERENCES

[1]. Katleen Braet, et al. Photoliberating inositol-1,4,5-trisphosphate triggers ATP release that is blocked by the connexin mimetic peptide gap 26. Cell Calcium. 2003 Jan;33(1):37-48.

[2]. Chaytor AT, et al. Peptides homologous to extracellular loop motifs of connexin 43 reversibly abolish rhythmic contractile activity in rabbit arteries. J Physiol. 1997 Aug 15;503 ( Pt 1):99-110.



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