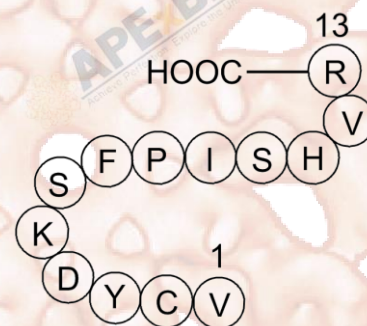


## Product Data Sheet

### Gap 26

<b>Cat. No.:</b>	A1044
<b>CAS No.:</b>	197250-15-0
<b>Formula:</b>	C70H107N19O19S
<b>M.Wt:</b>	1550.79
<b>Synonyms:</b>	Val-Cys-Tyr-Asp-Lys-Ser-Phe-Pro-Ile-Ser-His- Val-Arg
<b>Target:</b>	Neuroscience
<b>Pathway:</b>	Gap Junction
<b>Storage:</b>	Desiccate at -20°C



### Solvent & Solubility

insoluble in EtOH;  $\geq 155.1$  mg/mL in H<sub>2</sub>O with ultrasonic;  $\geq 77.55$  mg/mL in DMSO with gentle warming and ultrasonic

In Vitro

Preparing Stock Solutions	Mass		1mg	5mg	10mg
	Solvent				
	Concentration				
	1 mM	0.6448 mL	3.2242 mL	6.4483 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.

### Biological Activity

Shortsummary

Gap junction blocker peptide, mapping to connexin 43 residue 63-75

IC<sub>50</sub> & Target

In Vitro

#### Cell Viability Assay

Cell Line:	ECV304 cells
Preparation method:	The solubility of this peptide in sterile water is >10 mM. Stock solution should be split and stored at -80°C for several months.

	Reacting conditions:	0.25mg/ml, 30min
	Applications:	Preventing the InsP3-triggered calcium increase by ester loading the cells with the calcium chelator BAPTA reduced the InsP3-triggered ATP release back to the control level. Incubation of the cells with gap 26 completely abolished the InsP3-triggered ATP response and reduced the ATP release to below the control level, indicating that the basal ATP release is also affected.
In Vivo	<b>Animal experiment</b>	
	Animal models:	Female Sprague-Dawley rats
	Dosage form:	300 $\mu$ M, 45 min
	Applications:	The rats were prepared with closed cranial windows 24 h before the study. A 10-mm-diameter craniotomy was performed over the skull midline. The dura was removed carefully to keep the sagittal sinus intact. An 11-mm-diameter glass window outfitted with three ports was glued to the skull using cyanoacrylate. The skin overlying the window was sutured, and the animals were permitted to recover. On the day of study, three stainless steel screws were inserted into the skull, along the periphery of the cranial window, for electroencephalogram (EEG) recording. Cannulae were then connected to the three ports. The rats were subjected to one of two neuronal activation paradigms: SNS or bicuculline-induced seizure. Following the initial measurement of pial arteriolar diameter changes during SNS or during bicuculline exposure, baseline conditions were reestablished. After 20 min, a suffusion of gap-26 was initiated. Forty-five minutes later, the neural activation was repeated. Exposure to the Cx40/Cx37 inhibitory peptide, gap-26 (300 $\mu$ M), was without effect on bicuculline- or SNS-induced pial arteriolar dilations.
	Other notes:	Please test the solubility of all compounds indoor, and the actual solubility may slightly differ with the theoretical value. This is caused by an experimental system error and it is normal.

## Product Citations

1. Wang M, Wu Y, et al. "Rutaecarpine prevented ox-LDL-induced VSMCs dysfunction through inhibiting overexpression of connexin 43." *Eur J Pharmacol.* 2019 Jun 15;853:84-92.PMID:30880182
2. Mederos S, Hernández-Vivanco A, et al. "Melanopsin for precise optogenetic activation of astrocyte-neuron networks." *Glia.* 2019 Jan 11.PMID:30632636
3. Zhang X, Chen D, et al. "Involvement of sphingosine-1-phosphate receptors 2/3 in IR-induced sudden cardiac death." *Heart Vessels.* 2019 Jan 2.PMID:30604190
4. Condamine S, Lavoie R, et al. "Functional Rhythmogenic Domains Defined by Astrocytic Networks in the Trigeminal Main Sensory Nucleus." *Glia.* 2017 Oct 23.PMID:29058348
5. Yang G, Peng X, et al. "Involvement of connexin 43 phosphorylation and gap junctional communication between smooth muscle

cells in vasopressin-induced ROCK-dependent vasoconstriction after hemorrhagic shock." Am J Physiol Cell Physiol. 2017 Oct 1;313(4):C362-C370.PMID:28974518

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## References

[1] Braet K, Vandamme W, Martin P E M, et al. Photoliberating inositol-1, 4, 5-trisphosphate triggers ATP release that is blocked by the connexin mimetic peptide gap 26. Cell calcium, 2003, 33(1): 37-48.

[2] Xu H L, Mao L, Ye S, et al. Astrocytes are a key conduit for upstream signaling of vasodilation during cerebral cortical neuronal activation in vivo. American Journal of Physiology-Heart and Circulatory Physiology, 2008, 294(2): H622-H632.

## Caution

**FOR RESEARCH PURPOSES ONLY.**

**NOT FOR HUMAN, VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.**

*Specific storage and handling information for each product is indicated on the product datasheet. Most APEX BIO products are stable under the recommended conditions. Products are sometimes shipped at a temperature that differs from the recommended storage temperature. Shortterm storage of many products are stable in the short-term at temperatures that differ from that required for long-term storage. We ensure that the product is shipped under conditions that will maintain the quality of the reagents. Upon receipt of the product, follow the storage recommendations on the product data sheet.*

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**[www.apexbt.com](http://www.apexbt.com)**

7505 Fannin street, Suite 410, Houston, TX 77054.

Tel: +1-832-696-8203 | Fax: +1-832-641-3177 | Email: [info@apexbt.com](mailto:info@apexbt.com)

