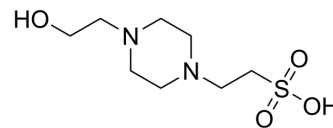


HEPES

Cat. No.:	HY-D0857		
CAS No.:	7365-45-9		
Molecular Formula:	C ₈ H ₁₈ N ₂ O ₄ S		
Molecular Weight:	238.3		
Target:	Biochemical Assay Reagents		
Pathway:	Others		
Storage:	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	6 months
		-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro	H ₂ O : 250 mg/mL (1049.10 mM; Need ultrasonic)					
		Solvent Concentration	Mass	1 mg	5 mg	10 mg
	Preparing Stock Solutions	1 mM		4.1964 mL	20.9820 mL	41.9639 mL
		5 mM		0.8393 mL	4.1964 mL	8.3928 mL
10 mM			0.4196 mL	2.0982 mL	4.1964 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 (419.64 mM); Clear solution; Need ultrasonic					

BIOLOGICAL ACTIVITY

Description	HEPES, a nonvolatile zwitterionic chemical buffering agent, is broadly applied in cell culture. HEPES is effective at pH 6.8 to 8.2. HEPES is also a potent inducer of lysosome biogenesis ^{[1][2][3]} .
In Vitro	HEPES maintains superhydrophilicity of titanium for at least 3 months and resulted in a continuous retention of bioactivity and osteoconductivity ^[1] . HEPES drives lysosome biogenesis, affects MiT/TFE cytoplasmic-nuclear distribution, disrupts global cellular transcriptional profiles, resulting the activation of a MiT/TFE-dependent lysosomal-autophagic gene network in cultured RAW264.7 cells ^[3] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Int Immunopharmacol. 2023 May 12;120:110292.
- Int Immunopharmacol. September 2022, 108953.

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REFERENCES

- [1]. Suzuki T, et al. Nonvolatile buffer coating of titanium to prevent its biological aging and for drug delivery. *Biomaterials*. 2010;31(18):4818-4828.
- [2]. Sledź P, et al. An experimental charge density of HEPES. *Acta Crystallogr B*. 2010;66(Pt 4):482-492.
- [3]. Tol MJ, et al. HEPES activates a MiT/TFE-dependent lysosomal-autophagic gene network in cultured cells: A call for caution. *Autophagy*. 2018;14(3):437-449.
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Caution: Product has not been fully validated for medical applications. For research use only.

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