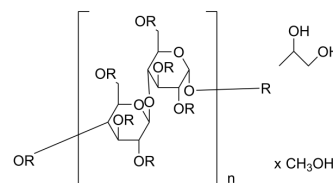


## HPMC

Cat. No.:	HY-A0104		
CAS No.:	9004-65-3		
Target:	Others		
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	DMSO : 25 mg/mL (Need ultrasonic) H <sub>2</sub> O : 10 mg/mL (Need ultrasonic)
In Vivo	1. Add each solvent one by one: PBS Solubility: 8.33 mg/mL (Infinity mM); Clear solution; Need ultrasonic and warming and heat to 60°C

### BIOLOGICAL ACTIVITY

Description	HPMC (Hypromellose) is a hydrophilic, non-ionic cellulose ether used to form swellable-soluble matrices.
In Vitro	<p>Hypromellose provides the release of a drug in a controlled manner, effectively increasing the duration of release of a drug to prolong its therapeutic effect<sup>[1]</sup>. Hypromellose (hydroxypropylmethylcellulose) has been used in sustained-release pharmaceutical products for many years. When used in matrix tablets, these polymers hydrate on contact with water to produce a viscous gel barrier within and surrounding the tablet. The properties of hypromellose that affect the rate of drug release include the rate of diffusion of water into the dry polymer, the rate of hypromellose hydration and gel formation, the viscosity of the hydrated hypromellose and rate of hypromellose gel erosion<sup>[2]</sup>.</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>
In Vivo	<p>Punctal occlusion using hypromellose 2% is a low-cost and safe additional treatment for dry eye. Fluorescein and rose bengal staining tests show that there was a significant reduction in signs after occlusion using hypromellose<sup>[3]</sup>.</p> <p>Hypromellose is effective in improving the blood glucose metabolism and suppressing oxidative stress in mice fed with a high fat diet. The antihyperglycemic and antioxidative effects of hypromellose could be partly attributed to the regulation of hepatic glucose-regulating enzyme activities and activation of the hepatic and erythrocyte antioxidant enzymes.</p> <p>Hypromellose may be useful as biomaterials in the development of functional food or as therapeutic agents against high fat-induced hyperglycemia and oxidative stress<sup>[4]</sup>.</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>

### CUSTOMER VALIDATION

- Cancer Cell. 2021 Mar 8;39(3):423-437.e7.
- Nat Commun. 2023 May 19;14(1):2859.
- Oncogene. 2022 May;41(22):3064-3078.

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## REFERENCES

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- [1]. Li CL, et al. The use of hypromellose in oral drug delivery. J Pharm Pharmacol. 2005 May;57(5):533-46.
- [2]. Braund R, et al. Hypromellose films for the delivery of growth factors for wound healing.
- [3]. Capita L, et al. Prospective evaluation of hypromellose 2% for punctal occlusion in patients with dry eye. Cornea. 2015 Feb;34(2):188-92.
- [4]. Ban SJ, et al. Antihyperglycemic and antioxidative effects of Hydroxyethyl Methylcellulose (HEMC) and Hydroxypropyl Methylcellulose (HPMC) in mice fed with a high fat diet. Int J Mol Sci. 2012;13(3):3738-50.
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**Caution: Product has not been fully validated for medical applications. For research use only.**

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