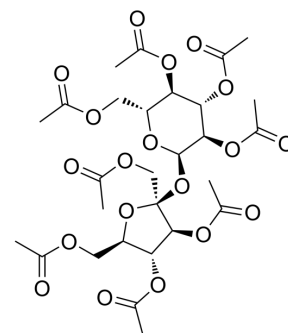


## Sucrose octaacetate

<b>Cat. No.:</b>	HY-119309		
<b>CAS No.:</b>	126-14-7		
<b>Molecular Formula:</b>	C <sub>28</sub> H <sub>38</sub> O <sub>19</sub>		
<b>Molecular Weight:</b>	678.59		
<b>Target:</b>	Biochemical Assay Reagents		
<b>Pathway:</b>	Others		
<b>Storage:</b>	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	2 years
		-20°C	1 year



### SOLVENT & SOLUBILITY

#### In Vitro

DMSO : 100 mg/mL (147.36 mM; Need ultrasonic)

	Solvent Concentration	Mass	1 mg	5 mg	10 mg
Preparing Stock Solutions	1 mM		1.4736 mL	7.3682 mL	14.7364 mL
	5 mM		0.2947 mL	1.4736 mL	2.9473 mL
	10 mM		0.1474 mL	0.7368 mL	1.4736 mL

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

#### In Vivo

- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline  
Solubility: ≥ 2.08 mg/mL (3.07 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)  
Solubility: ≥ 2.08 mg/mL (3.07 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil  
Solubility: ≥ 2.08 mg/mL (3.07 mM); Clear solution

### BIOLOGICAL ACTIVITY

#### Description

Sucrose octaacetate is an acetylated derivative of sucrose with an intensely bitter tasting and can be used as bitter tasting surrogate. Sucrose octaacetate can be used as food additive and also used as an adhesive and plasticizer. Sucrose octaacetate also used in many pesticides, insecticides, and other toxic products as a deterrent to accidental poisoning. Sucrose octaacetate can also be used as an in situ seed and a soft template to synthesize polyaniline (PANI) nanofibers<sup>[1][2][3]</sup>.

#### In Vitro

Sucrose octaacetate is nontoxic and has a number of uses based on its bitter taste. For example, sugar is rendered too bitter

	<p>is eat at a concentration of 0.06% (w/w) Sucrose octaacetate. Sucrose octaacetate can form 255 different possible isomers and degradation products, all of which have a very low molar absorptivity<sup>[1]</sup>.</p> <p>Polyaniline (PANI) nanofibers and nanorods are obtained using 2 and 3 g Sucrose octaacetate, respectively. The nanostructures containing irregular-shaped agglomerates, such as particulate particles and scaffolds are observed with increasing the concentrations of Sucrose octaacetate. The presence of Sucrose octaacetate during polymerization could only induce a change in morphology, but could not influence the molecular structure of the resulting PANI. Compared with those derived with 1, 3, and 4 g Sucrose octaacetate, the polymerized PANI from 2 g Sucrose octaacetate possesses higher thermal stability and electrical conductivity due to its higher crystallinity and highly ordered structure<sup>[3]</sup>.</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>
<p><b>In Vivo</b></p>	<p>No recombination has been found between Sucrose octaacetate-avoidance phenotype and PRP haplotype in any mouse population. Soa and Prp, therefore, are either very near each other or identical. To assess the latter possibility, two type-A, proline-rich protein genes (MP2 and M14), situated approximately 30 kb apart at the Prp locus, are separately transferred from a Sucrose octaacetate-taster inbred strain (SWR) to a Sucrose octaacetate-nontaster inbred strain (FVB). Five MP2-transgenic mice and seven M14-transgenic mice are insensitive to 1 mM Sucrose octaacetate in two-bottle tests, thus retaining the nontaster FVB phenotype. Expression of mRNAs for both type-A Prp genes alone or together do not enhance SOA taste sensitivity in nontaster mice<sup>[2]</sup>.</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>

## REFERENCES

- [1]. William Craig Stagner, et al. Chapter Five - Sucrose octaacetate. Profiles of Drug Substances, Excipients and Related Methodology. Volume 44, 2019, Pages 267-291.
- [2]. Harder DB, et al. Sucrose octaacetate avoidance in nontaster mice is not enhanced by two type-A Prp transgenes from taster mice. Chem Senses. 2000 Feb;25(1):39-45.
- [3]. Hua Qiu, et al. Synthesis of polyaniline nanostructures via soft template of sucrose octaacetate. Synthetic Metals. Volume 160, Issues 11-12, June 2010, Pages 1179-1183.

**Caution: Product has not been fully validated for medical applications. For research use only.**

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