# VPM peptide

**Cat. No.:** HY-P3159

**CAS No.:** 1428885-83-9

**Molecular Formula:** $C_{63}H_{109}N_{25}O_{22}S_4$

**Molecular Weight:** 1696.95

**Sequence Shortening:** GCRDVPMSMRGGDRCG

GCRDVPMSMRGGDRCG

**Target:** Biochemical Assay Reagents

**Pathway:** Others

**Storage:** Sealed storage, away from moisture and light, under nitrogen

Powder -80°C 2 years

-20°C 1 year

* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture and light, under nitrogen)

## SOLVENT & SOLUBILITY

**In Vitro**

DMSO : 50 mg/mL (29.46 mM; Need ultrasonic)

| Preparing Stock Solutions | Solvent / Mass / Concentration | 1 mg | 5 mg | 10 mg |
|---|---|---|---|---|
| | 1 mM | 0.5893 mL | 2.9465 mL | 5.8929 mL |
| | 5 mM | 0.1179 mL | 0.5893 mL | 1.1786 mL |
| | 10 mM | 0.0589 mL | 0.2946 mL | 0.5893 mL |

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

**In Vivo**

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (1.47 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (1.47 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (1.47 mM); Clear solution

## BIOLOGICAL ACTIVITY

**Description**

VPM peptide is a dithiol protease-cleavable peptide cross-linker. VPM peptide can be incorporated into the backbone of the PEG-diacrylate (PEG-DA) macromer to form PEG hydrogel[1][2].

**In Vitro**

VPM peptide is rapidly cleaved by matrix metalloproteinase (MMP)-1 and MMP-2 proteases[2].
VPM-crosslinked microgels are degradable by proteases in a concentration-dependent manner[2].

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

## REFERENCES

[1]. Phelps EA, et, al. Maleimide cross-linked bioactive PEG hydrogel exhibits improved reaction kinetics and cross-linking for cell encapsulation and in situ delivery. Adv Mater. 2012 Jan 3;24(1):64-70, 2

[2]. Foster GA, et, al. Protease-degradable microgels for protein delivery for vascularization. Biomaterials. 2017 Jan;113:170-175.



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