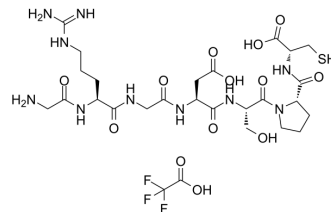


## GRGDSPC TFA

<b>Cat. No.:</b>	HY-P1559A
<b>Molecular Formula:</b>	C <sub>27</sub> H <sub>43</sub> F <sub>3</sub> N <sub>10</sub> O <sub>13</sub> S
<b>Molecular Weight:</b>	804.75
<b>Sequence:</b>	Gly-Arg-Gly-Asp-Ser-Pro-Cys
<b>Sequence Shortening:</b>	GRGDSPC
<b>Target:</b>	Others
<b>Pathway:</b>	Others
<b>Storage:</b>	Sealed storage, away from moisture and light
	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)

## SOLVENT & SOLUBILITY

### In Vitro

H<sub>2</sub>O : ≥ 100 mg/mL (124.26 mM)  
 \* "≥" means soluble, but saturation unknown.

Concentration	Solvent	Mass		
		1 mg	5 mg	10 mg
Preparing Stock Solutions	1 mM	1.2426 mL	6.2131 mL	12.4262 mL
	5 mM	0.2485 mL	1.2426 mL	2.4852 mL
	10 mM	0.1243 mL	0.6213 mL	1.2426 mL

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

## BIOLOGICAL ACTIVITY

### Description

GRGDSPC TFA, a 7-amino acid peptide, is a thiolated cell adhesion peptide<sup>[1]</sup>.

### In Vitro

GRGDSPC is conjugated to acrylated dextran via thiol-acrylate reaction to regulate the interactions of human mesenchymal stem cells (hMSCs) with the photocrosslinkable hydrogels. To determine the conjugation kinetics and efficiency of GRGDSPC peptide to DEX-MAES16, various GRGDSPC concentrations (i.e., 5, 10 and 20 mg/1 g DEX-MAES16) are conjugated to the acrylated Dextran (DEX) macromer over time (0.25, 0.5, 1 and 3h) in PBS at pH 7.8 and the free thiol groups of unreacted peptides are quantified using Ellman's assay. In addition, the reaction kinetics of the thiol-peptide to acrylated (DEX-MAES16) and methacrylated (DEX-HEMA16) macromers are compared. As early as 15 min conjugation, with 5, 10 and 20 mg of GRGDSPC peptide/1 g modified DEX, the peptide conjugation efficiencies with DEX-MAES are 105.40, 94.10 and 87.45%, respectively, while for the reaction with the DEX-HEMA they are 0.73, 15.78 and 18.42%, respectively. After 1h, the GRGDSPC conjugation with DEX-MAES is completed with the peptide concentration of 10 mg, but only 35.66% of the thiol groups of the peptide react with DEX-HEMA. The reaction kinetics are also monitored at 3 h of conjugation, and all of the 20 mg GRGDSPC

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peptide reacts with acrylated DEX compared to only 32.53% for the methacrylated DEX at this time point<sup>[1]</sup>.  
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

## REFERENCES

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[1]. Nguyen MK, et al. Photocrosslinkable, biodegradable hydrogels with controlled cell adhesivity for prolonged siRNA delivery to hMSCs to enhance their osteogenic differentiation. J Mater Chem B. 2017 Jan 21;5(3):485-495.

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

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