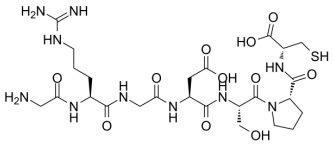
GRGDSPC

Cat. No.:	HY-P1559
CAS No.:	91575-26-7
Molecular Formula:	$C_{25}H_{42}N_{10}O_{11}S$
Molecular Weight:	690.73
Target:	Others
Pathway:	Others
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	GRGDSPC, a 7-amino acid peptide, is a thiolated cell adhesion peptide[1].
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 peptide reacts with acrylated DEX compared to only 32.53% for the methacrylated DEX at this time point[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

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

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