2,4-Dinitrophenyl-Pro-Leu-Gly-Met-Trp-Ser-Arg

Product Number D 4315
Storage Temperature –20 °C

**Product Description**

Molecular formula: \( \text{C}_{44}\text{H}_{61}\text{N}_{13}\text{O}_{13}\text{S} \)

Mol. wt.: 1012.1

2,4-Dinitrophenyl-Pro-Leu-Gly-Met-Trp-Ser-Arg (DNP-PLGMWSR) is a fluorescence-quenched substrate suitable for the assay of fibroblast gelatinase and neutrophil gelatinase.¹

Fluorescence-quenched substrates are very sensitive vehicles for studying enzyme activity. In this peptide, the fluorescence of Trp, in subsite P'2, is quenched by the 2,4-dinitrophenyl group attached at the N-terminus. Upon hydrolysis the quenching is relieved, leading to a significant increase in fluorescence. This increase can be then quantified by fluorometric detection (excitation 400 nm, emission 505 nm).

Fibroblast gelatinase (gelatinase A, MMP-2) and neutrophil gelatinase (gelatinase B, MMP-9) are zinc-dependent human matrix metalloproteinases. MMP-2 is an interstitial collagenase involved in tumor invasion and angiogenesis that cleaves type IV collagen and degrades denatured collagens.² MMP-9 from human fibrosarcoma cells cleaves the alpha 2 chain of type I collagen, collagen types III, IV, V, and gelatin. MMP-9 is also produced in human bone osteoclasts and, together with MMP-1 and cysteine proteinases, may be involved in bone collagen degradation.³

**Preparation Instructions**

Prepare stock 20 mM solutions in DMSO.

**Storage/Stability**

Store at –20 °C. Material stable for at least one year, if stored as recommended.

Store stock solutions in frozen aliquots at –20 °C. Allow material to warm to room temperature to ensure stability.

**References**

