Osteocalcin (1-49) (human)

Cat. No.:	HY-P2588
CAS No.:	136461-80-8
Molecular Formula:	$C_{269}H_{381}N_{67}O_{82}S_2$
Molecular Weight:	5929.44
Sequence:	Tyr-Leu-Tyr-Gln-Trp-Leu-Gly-Ala-Pro-Val-Pro-Tyr-Pro-Asp-Pro-Leu-{Gla}- Pro-Arg-Arg-{Gla}-Val-Cys-{Gla}-Leu-Asn-Pro-Asp-Cys-Asp-Glu-Leu-Ala-Asp-His-Ile-Gly-Phe-Gln-Glu-Ala-Tyr-Arg-Arg-Phe-Tyr-Gly-Pro-Val (Disulfide bridge:Cys23-Cys29)
Sequence Shortening:	YLYQWLGAPVPYPDPL-{Gla}-PRR-{Gla}-VC-{Gla}-LNPDCDELADHIGFQEAYRRFYGPV (Disulfide bridge:Cys23-Cys29)
Target:	Others
Pathway:	Others
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.

BIOLOGICAL ACTIVITY

Description	Osteocalcin (1-49) (human) is a vitamin K-dependent bone specific protein. Osteocalcin (1-49) (human) is chemotactic for several of the cell types frequently found at bone remodeling surfaces[1][2].
In Vitro	Up to 20% of all non-collagenous protein in human bone consists of Osteocalcin. Only minor amounts of Osteocalcin are secreted into the blood circulation where it can be measured by immunochemical methods[1]. Osteocalcin in serum is supposedly derived from newly synthesized bone, and the amount of this protein in serum may be a very specific marker for bone formation rate[1]. Osteocalcin (1 nM-1 μM) is chemotactic for breast cancer cells and osteoblast-like osteogenic sarcoma cells as well as monocytes, and causes their unidirectional migration[2]. Osteocalcin peptide contains 49 amino acids, with subsequent breakdown to fragments 1–19, 20–49, 20–43, 1–43, and 44–49 in the liver, kidney, and serum[3]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Kuronen I, et al. Production of monoclonal and polyclonal antibodies against human osteocalcin sequences and development of a two-site ELISA for intact human osteocalcin. J Immunol Methods. 1993 Aug 9;163(2):233-40.

[2]. Mundy GR, et al. Chemotactic activity of the gamma-carboxyglutamic acid containing protein in bone. Calcif Tissue Int. 1983;35(2):164-8.

[3]. Colford JW, et al. Immunoradiometric assay for intact human osteocalcin(1-49) without cross-reactivity to breakdown products. Clin Chem. 1999 Apr;45(4):526-31.

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

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