Cat# SP-87137-5 Osteocalcin (7-19) (human) **Size**: 1 mg

Sequence Gly-Ala-Pro-Val-Pro-Tyr-Pro-Asp-Pro-Leu-Glu-Pro-Arg

MW 1407.6
Purity >95%
Comments
Storage -20oC to -20oC in a dry and desiccated place

General Information

GAMMA-CARBOXYGLUTAMIC ACID PROTEIN, BONE; BGLAP

Alternative titles; symbols
BONE GAMMA-CARBOXYGLUTAMIC ACID PROTEIN, BONE Gla PROTEIN; BGP, OSTEOCALCIN; OC

Osteocalcin is a noncollagenous protein found in bone and dentin. It is secreted by osteoblasts and thought to play a role in mineralization and calcium ion homeostasis. It has been stipulated that osteocalcin may also function as a negative regulator of bone formation, although its exact role is unknown. It was reported that osteocalcin acts as a hormone in the body, causing beta cells in the pancreas to release more insulin, and at the same time directing fat cells to release the hormone adiponectin, which increases sensitivity to insulin. As osteocalcin is manufactured by osteoblasts, it is often used as a biochemical marker, or biomarker, for the bone formation process. It has been routinely observed that higher serum-osteocalcin levels are relatively well correlated with increases in bone mineral density (BMD) during treatment with anabolic bone formation drugs for osteoporosis, such as Forteo. In many studies, Osteocalcin is used as a preliminary biomarker on the effectiveness of a given drug on bone formation.

Bone gamma-carboxyglutamic acid (Gla) protein (BGLAP, or BGP) is a small, highly conserved molecule associated with the mineralized matrix of bone. Osteocalcin (OC) is a 49 amino acid peptide found exclusively in bone tissue and is highly conserved among species. Osteocalcin (OC) propeptide contains 100 amino acids (signal peptide 1-23aa, propeptide 24-51 aa, and Osteolcacin mature peptide is 52-100 aa).

Various osteocalcin fragments have been used for antibody production and other uses.

Human Pro-osteocalcin

MRALTLLALL ALAALCIAGQ AGAKPSGAES SKGAAFVSKQ EGSEVVKRPR RYLYQWLGAP VPYPDPLEPR REVCELNPDC DELADHIGFQ EAYRRFYGPV

Refs: Celeste AJ (1986) EMBO J 5, 1885-1890; Poser JW (1980) JBC 255, 8685-8691

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