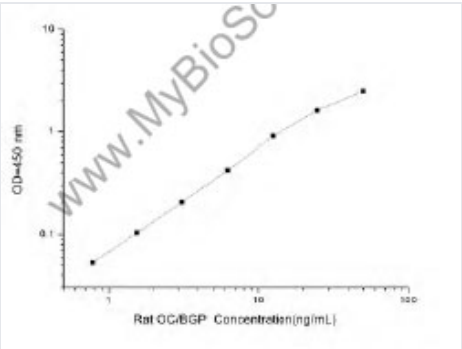
Oc/BGP ELISA Kit for Rat

PRODUCT OVERVIEW

Product Name	OC/BGP, ELISA Kit
Full Product Name	Rat OC/BGP (Osteocalcin) ELISA Kit
Product Gene Name	OC/BGP elisa kit
Species Reactivity	Rat
Assay Type	Quantitative Sandwich
Samples	Serum, plasma and other biological fluids
Detection Range	0.78-50ng/mL
Sensitivity	0.47ng/mL
Specificity	This kit recognizes Rat OC/BGP in samples. No significant cross-reactivity or interference between Rat OC/BGP and analogues was observed.
Preparation and Storage	Store at 4 degree C.
Inter-assay Precision	Inter-assay Precision (Precision between assays): 3 samples with low, mid range and high level Rat OC/BGP were tested on 3 different plates, 20 replicates in each plate.
Intra-assay Precision	Intra-assay Precision (Precision within an assay): 3 samples with low, mid range and high level Rat OC/BGP were tested 20 times on one plate, respectively.
Molecular Weight	10,963 Da
OMIM	112260
3D Structure	ModBase 3D Structure for P02818
ISO Certification	Manufactured in an ISO 9001:2015 Certified Laboratory.
Related Product Information for OC/BGP elisa kit	Intended Uses: This ELISA kit applies to the in vitro quantitative determination of Rat OC/BGP concentrations in serum, plasma and other biological fluids. Principle of the Assay: This ELISA kit uses the Sandwich-ELISA principle. The micro ELISA plate provided in this kit has been pre-coated with an antibody specific to Rat OC/BGP. Standards or samples are added to the micro ELISA plate wells and combined with the specific antibody. Then a biotinylated detection antibody specific for Rat OC/BGP and Avidin-Horseradish Peroxidase (HRP) conjugate are added successively to each micro plate well and incubated. Free components are washed away. The substrate solution is added to each well. Only those wells that contain Rat OC/BGP, biotinylated detection antibody and Avidin-HRP conjugate will appear blue in color. The enzyme-substrate reaction is terminated by the addition of stop solution and the color turns yellow. The optical density (OD) is measured spectrophotometrically at a wavelength of 450 nm +/- 2 nm. The OD value is proportional to the concentration of Rat OC/BGP. You can calculate the concentration of Rat OC/BGP in the samples by comparing the OD of the samples to the standard curve.
Other Notes	Small volumes of OC/BGP elisa kit vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.

Searchable Terms for OC/BGP purchase	MBS2501223 is a ready-to-use microwell, strip-or-full plate ELISA (enzyme-linked immunosorbent assay) Kit for analyzing the presence of the OC/BGP, ELISA Kit target analytes in biological samples. The concentration gradients of the kit standards or positive controls render a theoretical kit detection range in biological research samples containing OC/BGP. The ELISA analytical biochemical technique of the MBS2501223 kit is based on OC/BGP antibody-OC/BGP antigen interactions (immunosorbency) and an HRP colorimetric detection system to detect OC/BGP antigen targets in samples. The ELISA Kit is designed to detect native, not recombinant, OC/BGP. Appropriate sample types may include undiluted body fluids and/or tissue homogenates, secretions. Quality control assays assessing reproducibility identified the intra-assay CV (%) and inter-assay CV(%).



Typical Testing Data/Standard Curve (for reference only) of OC/BGP elisa kit

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for OC/BGP. It may not necessarily be applicable to this product.

NCBI GI #	40316933
NCBI GeneID	632
NCBI Accession #	NP_954642.1
UniProt Primary Accession #	P02818
UniProt Secondary Accession #	Q5TCK6
UniProt Related Accession #	P02818
GenBank Nucleotide #	NM_199173.4
NCBI Official Full Name	osteocalcin preproprotein
NCBI Official Synonym Full Names	bone gamma-carboxyglutamate (gla) protein
NCBI Official Symbol	BGLAP
NCBI Official Synonym Symbols	OC; BGP; OCN
UniProt Protein Name	Osteocalcin
UniProt Synonym Protein Names	Bone Gla protein; BGP; Gamma-carboxyglutamic acid-containing protein
Protein Family	Osteocalcin
UniProt Gene Name	BGLAP
UniProt Synonym Gene Names	BGP
UniProt Entry Name	OSTCN_HUMAN
NCBI Protein Information	osteocalcin; bone Gla protein; bone gamma-carboxyglutamate (gla) protein (osteocalcin); gamma-carboxyglutamic acid-containing protein

NCBI Summary for OC/BGP	This gene encodes a highly abundant bone protein secreted by osteoblasts that regulates bone remodeling and energy metabolism. The encoded protein contains a Gla (gamma carboxyglutamate) domain, which functions in binding to calcium and hydroxyapatite, the mineral component of bone. Serum osteocalcin levels may be negatively correlated with metabolic syndrome. Read-through transcription exists between this gene and the neighboring upstream gene, PMF1 (polyamine-modulated factor 1), but the encoded protein only shows sequence identity with the upstream gene product. [provided by RefSeq, Jun 2015]
UniProt Comments for OC/BGP	osteocalcin: Constitutes 1-2% of the total bone protein. It binds strongly to apatite and calcium. Belongs to the osteocalcin/matrix Gla protein family. Protein type: Secreted; Cell development/differentiation; Secreted, signal peptide Chromosomal Location of Human Ortholog: 1q22 Cellular Component: Golgi apparatus; extracellular space; rough endoplasmic reticulum; cytoplasm; dendrite; perikaryon Molecular Function: structural constituent of bone; hydroxyapatite binding; calcium ion binding; structural molecule activity Biological Process: response to drug; response to gravity; regulation of bone resorption; response to glucocorticoid stimulus; cell aging; response to testosterone stimulus; bone mineralization; osteoblast development; osteoblast differentiation; odontogenesis; response to vitamin D; regulation of osteoclast differentiation; response to ethanol; response to vitamin K; response to zinc ion; response to estrogen stimulus; response to mechanical stimulus; response to hydroxyisoflavone; response to activity; cell adhesion; regulation of bone mineralization; skeletal development
Research Articles on OC/BGP	**1.** Osteocalcin might improve glucose metabolism through enhancing insulin secretion in males, and through increasing insulin secretion and improving insulin resistance in females with type 2 diabetes mellitus.
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