BACKGROUND
Bone γ-carboxyglutamic acid (Gla) protein, known as BGLAP, BGP or osteocalcin, is an abundant, non-collagenous protein component of bone that is produced by osteoblasts. In mice, osteocalcin is composed of a cluster of 3 genes known as OG1, OG2 and ORG, all of which can be found within a 23 Kb span of genomic DNA. Human osteocalcin is a highly conserved, 46-50 amino acid, single chain protein that contains 3 vitamin K-dependent γ-carboxyglutamic acid residues. Osteocalcin appears transiently in embryonic bone at the time of mineral deposition, where it binds to hydroxyapatite in a calcium-dependent manner. In addition, osteocalcin is one of the most abundant, non-collagenous proteins found in mineralized adult bone. Genetic variation at the osteocalcin locus on chromosome 1q impacts postmenopause bone mineral density (BMD) levels and may predispose some women to osteoporosis.

CHROMOSOMAL LOCATION
Genetic locus: BGLAP (human) mapping to 1q22; Bglap/Bglap2/Bglap3 (mouse) mapping to 3 F1.

SOURCE
osteocalcin (G-5) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 53-87 within an internal region of osteocalcin of human origin.

PRODUCT
Each vial contains 200 μg IgG3 kappa light chain in 1.0 ml of PBS with <0.1% sodium azide and 0.1% gelatin.

osteocalcin (G-5) is available conjugated to agarose (sc-365797 AC), 500 μg/0.25 ml agarose in 1 ml, for IP, to HRP (sc-365797 HRP), 200 μg/ml, for WB, IHC(P) and ELISA; and to either phycocyanin (sc-365797 PE) or Alexa Fluor® 488 (sc-365797 AF488) or Alexa Fluor® 647 (sc-365797 AF647), 200 μg/ml, for WB (RGB), IF, IHC(P) and FCM.

Blocking peptide available for competition studies, sc-365797P, (100 μg peptide in 0.5 ml PBS containing <0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS
osteocalcin (G-5) is recommended for detection of osteocalcin of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μg per 100-500 μg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for osteocalcin siRNA (h): sc-40790, osteocalcin siRNA (m): sc-40791, osteocalcin shRNA Plasmid (h): sc-40790-SH, osteocalcin shRNA Plasmid (m): sc-40791-SH, osteocalcin shRNA (h) Lentiviral Particles: sc-40790-V and osteocalcin shRNA (m) Lentiviral Particles: sc-40791-V.

Molecular Weight of osteocalcin: 6 kDa.

STORAGE
Store at 4°C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No SDS required.

DATA

SELECT PRODUCT CITATIONS

RESEARCH USE
For research use only, not for use in diagnostic procedures.