osteocalcin (E-6): sc-376835

**BACKGROUND**

Bone γ-carboxyglutamatic 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 three genes known as OG1, OG2 and ORG, all of which can be found within a 23Kb span of genomic DNA. Human osteocalcin is a highly conserved, 46-50 amino acid, single chain protein that contains three vitamin K-dependent γ-carboxyglutamatic 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/Bglap2/Bglap3 (mouse) mapping to 3 F1.

**SOURCE**

osteocalcin (E-6) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 41-79 within an internal region of osteocalcin of mouse origin.

**PRODUCT**

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

osteocalcin (E-6) is available conjugated to agarose (sc-376835 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-376835 HRP), 200 µg/ml, for WB, (HCP) and ELISA; to either phycoerythrin (sc-376835 PE), fluorescein (sc-376835 FITC), Alexa Fluor® 488 (sc-376835 AF488), Alexa Fluor® 546 (sc-376835 AF546), Alexa Fluor® 594 (sc-376835 AF594) or Alexa Fluor® 647 (sc-376835 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376835 AF680) or Alexa Fluor® 790 (sc-376835 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-376835 P, (100 µg peptide in 0.5 ml PBS containing <0.1% sodium azide and 0.2% stabilizer protein).

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA.

**APPLICATIONS**

osteocalcin (E-6) is recommended for detection of osteocalcin, osteocalcin-2 and osteocalcin-related protein of mouse 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000)

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

Molecular Weight of osteocalcin: 6 kDa.

**DATA**

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

**SELECT PRODUCT CITATIONS**

2. Han, J. and Wang, W. 2017. Effects of tanshinol on markers of bone 680 (sc-376835 AF680) or Alexa Fluor.
6. Yan, L., et al. 2017. Insulin-like growth factor-1 promotes the proliferation 546 and odontoblastic differentiation of human dental pulp cells under high 594 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.

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