

**BP712****Polyclonal Antibody to Osteocalcin - Serum**

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| <b>Alternate names:</b>    | BGLAP, Bone Gla protein, Gamma-carboxyglutamic acid-containing protein                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Quantity:</b>           | 0.1 ml                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Background:</b>         | Osteocalcin (Bone Gla Protein) is a 49 amino acid single chain vitamin K dependent protein (MW 5.8 kDa), made by osteoblasts that is a major component of the non-collagenous bone matrix. Serum osteocalcin is elevated in diseases characterized by increased bone turnover such as osteoporosis, hyperparathyroidism and Paget's disease, and low in conditions associated with low bone turnover such as hypoparathyroidism and growth hormone deficiency.                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Uniprot ID:</b>         | <a href="#">P04641</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>NCBI:</b>               | <a href="#">NP_001027469.2</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>GenelD:</b>             | <a href="#">12097</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Host:</b>               | Goat                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Immunogen:</b>          | Highly purified native Mouse Osteocalcin.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Format:</b>             | <b>State:</b> Liquid Serum<br><b>Preservatives:</b> 0.09% Sodium Azide                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Applications:</b>       | <b>Immunofluorescence.</b><br><b>Immunohistochemistry on Frozen Sections:</b> 1/50-1/500.<br>Other applications not tested. Optimal dilutions are dependent on conditions and should be determined by the user.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Specificity:</b>        | This antibody is specific for intact Osteocalcin and recognizes a site at the Carboxyl terminal.<br><b>Negative Species:</b> Human, Bovine, Rat, Monkey, Elk, Chicken.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Species Reactivity:</b> | <b>Tested:</b> Mouse.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Storage:</b>            | Store undiluted at 2-8°C for one month or (in aliquots) at -20°C for longer.<br>Avoid repeated freezing and thawing.<br>Shelf life: one year from despatch.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>General Readings:</b>   | 1. Gundberg, C. M. et al. (1992) Development and validation of a radioimmunoassay for mouse osteocalcin: paradoxical response in the Hyp mouse. <i>Endocrinology</i> .130 (4):1909-1915.<br>2. Matsumoto, T. et al. (2010) Lnk-dependent axis of SCF-cKit signal for osteogenesis in bone fracture healing. <i>J Exp Med</i> . 207: 2207-23. PubMed PMID: 20855498.<br>3. Davies, M.R. et al. (2003) BMP-7 is an efficacious treatment of vascular calcification in a murine model of atherosclerosis and chronic renal failure. <i>J Am Soc Nephrol</i> . 14 (6): 1559-67.<br>4. Tasso, R. et al. (2009) Recruitment of a host's osteoprogenitor cells using exogenous mesenchymal stem cells seeded on porous ceramic. <i>Tissue Eng Part A</i> . 15: 2203-12.<br>5. Qian, H. et al. (2013) Molecular characterization of prospectively isolated multipotent mesenchymal progenitors provides new insight into the cellular identity |

- of mesenchymal stem cells in mouse bone marrow. *Mol Cell Biol.* 33: 661-77.
6. Cherry, H.M. et al. (2014) In vivo phenotypic characterisation of nucleoside label-retaining cells in mouse periosteum. *Eur Cell Mater.* 27: 185-95; discussion 195.
7. Ma, M.S. et al. (2016) Characterization and comparison of osteoblasts derived from mouse embryonic stem cells and induced pluripotent stem cells. *J Bone Miner Metab.* Jan 8. [Epub ahead of print]
8. Sista S et al. (2011) The influence of surface energy of titanium-zirconium alloy on osteoblast cell functions in vitro. *J Biomed Mater Res A.* 97 (1): 27-36.