Rat OC/BGP Antibody Pair Set

Catalog No. E-KAB-0627 **Applications** ELISA
Synonyms BGLAP;OT;Bone Gamma-carboxyglutamate Protein;Bone Gla Protein

Kit components & Storage

Title	Specifications	Storage
Rat OC/BGP Capture Antibody	1 vial, 100 μg	Store at -20℃ for one year. Avoid freeze/thaw cycles.
Rat OC/BGP Detection Antibody (Biotin)	1 vial, 50 μL	Store at -20℃ for one year. Avoid freeze/thaw cycles.

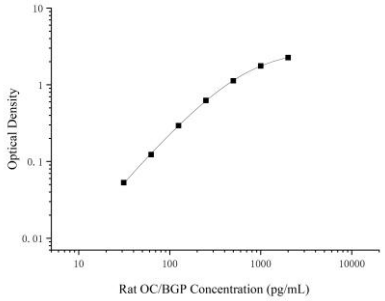
Note: Centrifuge before opening to ensure complete recovery of vial contents.

Product Information

Items		Characteristic (E-KAB-0627)	
		Rat OC/BGP Capture Antibody	Rat OC/BGP Detection Antibody (Biotin)
Immunogen Information	Immunogen	Recombinant Rat OC/BGP protien	Recombinant Rat OC/BGP protien
	Swissprot	P04640	
Product details	Reactivity	Rat	Rat
	Host	Mouse	Mouse
	Conjugation	Unconjugated	Biotin
	Concentration	0.5 mg/mL	/
	Buffer	PBS with 0.04% Proclin 300; 50% glycerol; pH 7.5	PBS with 0.04% Proclin 300; 1% protective protein; 50% glycerol; pH 7.5
	Purify	Protein A or G	Protein A or G
	Specificity	Detects Rat OC/BGP in ELISAs.	

Applications

Rat OC/BGP Sandwich ELISA Assay:

	Recommended Concentration/Dilution	Reagent	Images
ELISA Capture	0.5-4 μg/mL	Rat OC/BGP Capture Antibody	
ELISA Detection	1:1000-1:10000	Rat OC/BGP Detection Antibody (Biotin)	

Note: This standard curve is only for demonstration purposes. A standard curve should be generated for each assay!

Background

The carboxylated form is one of the main organic components of the bone matrix , which constitutes 1-2% of the total bone protein: it acts as a negative regulator of bone formation and is required to limit bone formation without impairing bone resorption or mineralization. The carboxylated form binds strongly to apatite and calcium.The uncarboxylated form acts as a hormone secreted by osteoblasts , which regulates different cellular processes , such as energy metabolism , male fertility and brain development. Regulates of energy metabolism by acting as a hormone favoring pancreatic beta-cell proliferation , insulin secretion and sensitivity and energy expenditure. Uncarboxylated osteocalcin hormone also promotes testosterone production in the testes: acts as a ligand for G protein-coupled receptor GPRC6A at the surface of Leydig cells , initiating a signaling response that promotes the expression of enzymes required for testosterone synthesis in a CREB-dependent manner. Also acts as a regulator of brain development: osteocalcin hormone crosses the blood-brain barrier and acts as a ligand for GPR158 on neurons , initiating a signaling response that prevents neuronal apoptosis in the hippocampus , favors the synthesis of all monoamine neurotransmitters and inhibits that of gamma-aminobutyric acid (GABA) . Osteocalcin also crosses the placenta during pregnancy and maternal osteocalcin is required for fetal brain development.