
Product Data Sheet

Product Name: BGLAP Protein, Mouse (His-SUMO)

Cat. No.: GC26916

Batch No.: 1

Product Data

Purity	>98%	Source	E. coli
Physical Appearance	solid	Shipping Condition	
Synonyms	BGLAP $\square\square$, Mouse (His-SUMO); Bglap; Osteocalcin; Bone Gla protein; BGP; Gamma-carboxyglutamic acid-containing protein		
Amino Acid Sequence	YLGASVPSPD PLEPTREQCE LNPACDELSD QYGLKTAYKR IYGITI		
Formulation	Lyophilized from a 0.2 μ m solution of 20 mM Tris-HCl, 0.5 M NaCl, 6% Trehalose, pH 8.0.		

Introduction

The BGLAP protein, in its carboxylated form, stands as a major organic constituent within the bone matrix, representing 1-2% of the total bone protein. In this carboxylated state, it serves as a negative regulator of bone formation, crucial for limiting bone formation while preserving the processes of bone resorption and mineralization. Notably, the carboxylated form exhibits strong binding affinity to apatite and calcium. Conversely, the uncarboxylated form functions as a hormone secreted by osteoblasts, exerting regulatory influence over diverse cellular processes. This includes its role in energy metabolism, where it acts as a hormone promoting pancreatic beta-cell proliferation, insulin secretion, insulin sensitivity, and energy expenditure. Moreover, the uncarboxylated osteocalcin hormone functions as a key player in male fertility by promoting testosterone production in the testes through its interaction with the G protein-coupled receptor GPRC6A. Additionally, it acts as a regulator of brain development, crossing the blood-brain barrier to initiate signaling responses that prevent neuronal apoptosis in the hippocampus, stimulate the synthesis of monoamine neurotransmitters, and inhibit gamma-aminobutyric acid (GABA) synthesis. Importantly, maternal osteocalcin, which crosses the placenta during pregnancy, plays a crucial role in fetal brain development.

Caution: Product has not been fully validated for medical applications. For research use only.

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Stability

Stored at -20°C for 2 years from date of receipt. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.

Background

BGLAP 肽, Mouse (His-SUMO) 肽 BGLAP 肽 E. coli N-6*His, N-SUMO 肽

BGLAP 肽 1-2% 肽 β 肽 G 肽 GPRC6A 肽 γ-肽 GABA 肽

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