

Rev03
Update: Dec,14,2021

DATASHEET

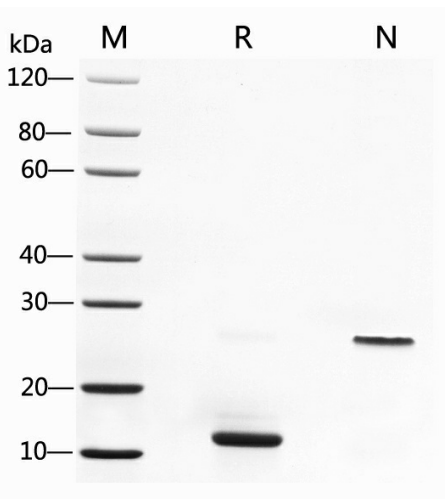
BMP-2, Human

Cat. No.: Z02913

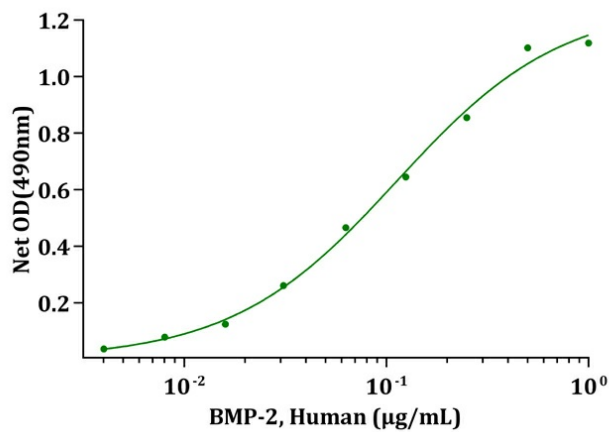
Product Introduction

Species	Human
Protein Construction	BMP-2 (Gln283-Arg396) Accession # P12643
Purity	> 95% as analyzed by SDS-PAGE > 95% as analyzed by HPLC
Endotoxin Level	< 1 EU/μg of protein by gel clotting method
Biological Activity	Assay #1: Measured by its ability to induce alkaline phosphatase production by ATDC-5 Cells. The ED ₅₀ for this effect is typically 0.07-0.2 μg/ml. Assay #2: Measured by its ability to induce alkaline phosphatase production by C2C12 cells. The ED ₅₀ for this effect is typically 0.2-1 μg/ml.
Expression System	E. coli
Apparent Molecular Weight	~26 kDa, on SDS-PAGE under non-reducing conditions.
Formulation	Lyophilized after extensive dialysis against 50 mM acetic acid.
Reconstitution	It is recommended that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute the lyophilized powder in 20 mM AcOH or 5 mM HCl up to 100 μg/ml.
Storage & Stability	Upon receiving, this product remains stable for up to 6 months at lower than -70°C. Upon reconstitution, the product should be stable for up to 1 week at 4°C or up to 3 months at -20°C. For long term storage it is recommended that a carrier protein (example 0.1% BSA) be added. Avoid repeated freeze-thaw cycles.

Examples

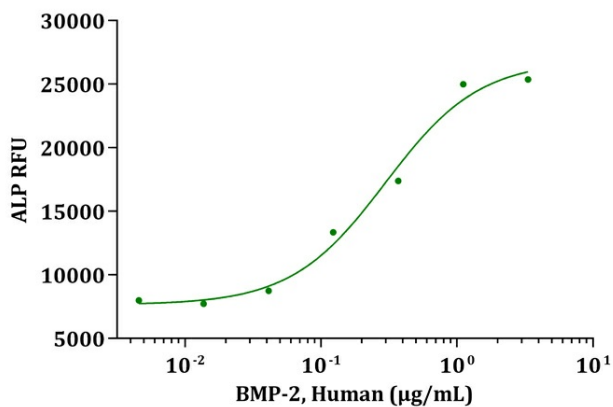


2 μg of BMP-2, Human (Cat. No. Z02913) was resolved with SDS-PAGE under reducing (R) and non-reducing (N) conditions and visualized by Coomassie Blue staining.



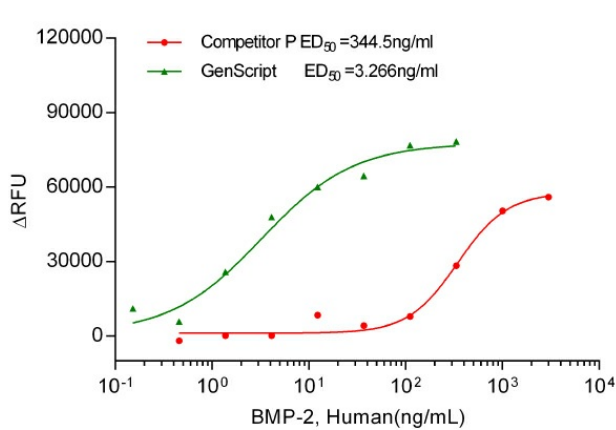
Biological Activity

BMP-2, Human (Cat. No. Z02913) induce alkaline phosphatase production by ATDC5 cells. The ED_{50} for this effect is typically 0.07-0.20 $\mu\text{g/mL}$.



Biological Activity

BMP-2, Human (Cat. No. Z02913) induce alkaline phosphatase production by C2C12 cells. The ED_{50} for this effect is typically 0.10-0.80 $\mu\text{g/mL}$.



GenScript product showed better activity compared to competitor P

Background

Target Background : Human Bone Morphogenetic Protein-2 (BMP-2) is a bone-growth regulatory factor and belongs to the transforming growth factor-beta (TGF-beta) superfamily. Human Bone Morphogenetic Protein-2 (BMP-2) is synthesized as large precursor molecule (Met1-Arg396, with a signal peptide from Met1 to Gly23), propeptide (Leu24-Arg282) of which is cleaved by PCSK5 (Proprotein Convertase Subtilisin/Kexin type 5). The active form consists of a dimer of two identical proteins which are linked by a disulfide bond at Cys360. It plays an important role in the development of bone and cartilage, cardiac cell differentiation and epithelial to mesenchymal transition. It is also involved in the hedgehog pathway, TGF-beta signaling pathway, and in cytokine-cytokine receptor interaction.

Synonyms : BMP-2; BMP2A; Bone morphogenetic protein 2; BMP-2A; BMP2

For laboratory research use only. Direct human use, including taking orally and injection and clinical use are forbidden.