

Recombinant Human Bone Morphogenetic Protein 2

#R00179

Size: 10 µg/100 µg/500 µg

Stability & Storage

Use a manual defrost freezer and avoid repeated freeze-thaw cycles.

- 12 months from date of receipt, -20 to -70 °C as supplied.
- 1 month, 2 to 8 °C under sterile conditions after reconstitution.
- 3 months, -20 to -70 °C under sterile conditions after reconstitution.



Warning: This product is intended for scientific research only. It is not to be used for medical or diagnostic procedures in humans or animals, nor as a food, cosmetic, or household product.

Background

Bone Morphogenetic Protein 2 is one of the BMPs, some of which belong to the TGF-beta superfamily (BMP2-7). There are more than thirteen BMPs have been discovered nowadays and they are involved in inducing cartilage and bone formation. BMP-2 is expressed in a variety of tissues including lung, spleen, brain, liver, prostate ovary and small intestine. It is a potent osteoinductive cytokine and plays its role in association with osteoconductive carriers such as collagen and synthetic hydroxyapatite. As it shown to stimulate the production of bone, the recombinant human BMP-2 is available for orthopaedic usage and dentistry. The functional form of BMP-2 is a disulfide-linked homodimer and about 26 kDa The precursor of BMP-2 is 259 a.a., containing the 23 a.a. N-terminal signal sequence which will be cleaved by a furin-type protease to form the mature peptide.

AA Sequence

MQAKHKQRKRLKSSCKRHPLYVDFSDVGWNDWIVA
PPGYHAFYCHGECPFPLADHLNSTNHAIVQTLVNSVN
SKIPKACCVPTELSAISMLYLDENEKVVVKNYQDMVV
EGCGCR

Reconstitution

We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute in sterile distilled H₂O to a concentration of 0.1-1.0 mg/mL. Stock solutions should be apportioned into working aliquots and stored at ≤ -20 °C. Further dilutions should be made in appropriate buffered solutions. Do not reconstitute in PBS or cell culture media.

Product Specification

Synonyms	BMP-2A
Accession	P12643
GeneID	650
Species	Human
Source	Escherichia coli.
Molecular Weight	Approximately 26.0 kDa, a homodimeric protein consisting of two 115 amino acid non-glycosylated polypeptide chains.
Purity	> 95 % by SDS-PAGE and HPLC analyses.
Biological Activity	Fully biologically active when compared to standard. The ED ₅₀ as determined by inducing alkaline phosphatase production of murine ATDC5 cells is less than 200 ng/ml, corresponding to

	a specific activity of $> 5.0 \times 10^3$ IU/mg.
Physical Appearance	Sterile Filtered White lyophilized (freeze-dried) powder.
Formulation	Lyophilized from a 0.2 μ m filtered concentrated solution containing 10 mM sodium citrate pH 3.5.
Endotoxin	Less than 1 EU/ μ g of rHuBMP-2 as determined by LAL method.
