



# Human Bone morphogenetic protein 7,BMP-7

## ELISA Kit

<b>Product Code</b>	CSB-E08122h
<b>Abbreviation</b>	BMP7
<b>Protein Biological Process 1</b>	Developmental Protein
<b>Target Name</b>	bone morphogenetic protein 7
<b>Uniprot No.</b>	P18075
<b>Alias</b>	OP-1, osteogenic protein 1
<b>Product Type</b>	ELISA Kit
<b>Immunogen Species</b>	Homo sapiens (Human)
<b>Protein Biological Process 3</b>	Chondrogenesis
<b>Sample Types</b>	serum, plasma, cell culture supernates
<b>Detection Range</b>	15.6 pg/mL-1000 pg/mL
<b>Sensitivity</b>	3.9 pg/mL
<b>Assay Time</b>	1-5h
<b>Sample Volume</b>	50-100ul
<b>Detection Wavelength</b>	450 nm
<b>Lead Time</b>	3-5 working days after you place the order, and it takes another 3-5 days for delivery via DHL or FedEx.
<b>Research Area</b>	Signal Transduction
<b>Gene Names</b>	BMP7
<b>Tag Info</b>	quantitative
<b>Protein Description</b>	Sandwich

### Description

The human bone morphogenetic protein 7 (BMP7) ELISA Kit is used to quantitatively measure human BMP7 concentrations in serum, plasma, or cell culture supernates. It performs well in important characteristics, including sensitivity and specificity. This assay is based on the sandwich ELISA mechanism and enzyme-substrate chromogenic reaction. The solution color develops proportionally to the amount of BMP7 in the sample. And the intensity of the color can be measured at 450 nm via a microplate reader.

BMP7 is a potent anti-inflammatory growth factor that plays an important role in various biological processes, including embryogenesis, hematopoiesis, neurogenesis, and skeletal morphogenesis. BMP7 stimulates the target cells by



binding to specific membrane-bound receptor BMPR2 and transduces signals through Smads and MAPK pathways. It maintains multiple physiological processes such as bone development, fracture healing, and differentiation of brown adipose tissue in the body. Downregulation of BMP7 is linked to various diseases including osteoporosis, CVD, and diabetes.

### Target Details

The bone morphogenetic proteins (BMPs) are a family of secreted signaling molecules that can induce ectopic bone growth. Many BMPs are part of the transforming growth factor-beta (TGFB) superfamily. BMPs were originally identified by an ability of demineralized bone extract to induce endochondral osteogenesis in vivo in an extraskeletal site. Based on its expression early in embryogenesis, the BMP encoded by this gene has a proposed role in early development and possible bone inductive activity.

### Product Precision

Intra-assay Precision (Precision within an assay): CV%<8%  
Three samples of known concentration were tested twenty times on one plate to assess.

Inter-assay Precision (Precision between assays): CV%<10%  
Three samples of known concentration were tested in twenty assays to assess.

### Linearity

To assess the linearity of the assay, samples were spiked with high concentrations of human BMP-7 in various matrices and diluted with the Sample Diluent to produce samples with values within the dynamic range of the assay.

	Sample	Serum(n=4)
1:1	Average %	94
	Range %	89-98
1:2	Average %	102
	Range %	98-107
1:4	Average %	94
	Range %	89-98
1:8	Average %	94
	Range %	87-98

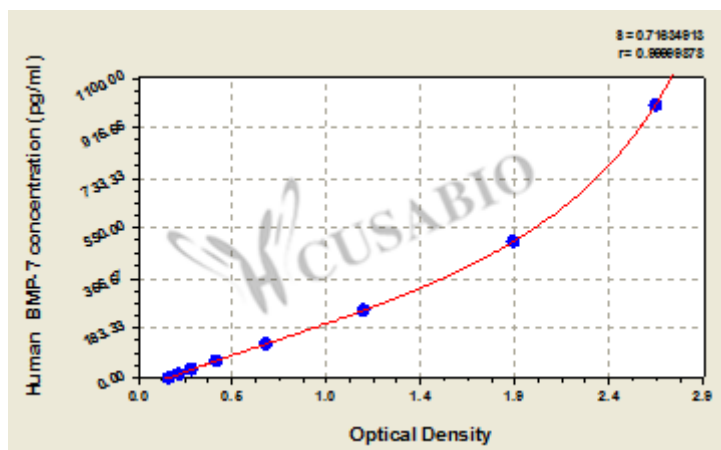
### Recovery

The recovery of human BMP-7 spiked to levels throughout the range of the assay in various matrices was evaluated. Samples were diluted prior to assay as directed in the Sample Preparation section.

Sample Type	Average % Recovery	Range
Serum (n=5)	96	92-100
EDTA plasma (n=4)	88	82-92

### Typical

These standard curves are provided for demonstration only. A standard curve should be generated for each set of samples assayed.



pg/ml	OD1	OD2	Average	Corrected
1000	2.548	2.687	2.618	2.449
500	1.982	1.824	1.903	1.734
250	1.138	1.167	1.153	0.984
125	0.653	0.668	0.661	0.492
62.5	0.405	0.412	0.409	0.240
31.2	0.287	0.274	0.281	0.112
15.6	0.220	0.226	0.223	0.054
0	0.168	0.169	0.169	

## Msds

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