GDF-8 in Human Serum

Method:	Liquid Chromatography-Tandem Mass Spectrometry (LC/MS/MS)
Description:	Myostatin (also known as GDF-8) is a myokine, a protein produced and released by myocytes that acts on muscle cells' autocrine function to inhibit myogenesis: muscle cell growth and differentiation. Animals with low myostatin have significantly more muscle mass, and individuals who have mutations in both copies of the myostatin gene have significantly more muscle mass and are stronger than normal. There is hope that studies into myostatin may have therapeutic application in treating muscle wasting diseases such as muscular dystrophy. Human serum/plasma was denatured, reduced and alkylated, followed by pH-based fractionation using cation ion exchange SPE; appropriate elution fraction was digested with trypsin. After desalting and concentrating of tryptic digest, the peptide mixture was separated and eluted by liquid chromatography followed by mass spectrometric analysis operated in positive electrospray ionization mode. The most intensive and unique proteotypic peptides from GDF-11 and GDF-8 as surrogated peptides along with heavy-labeled unique peptides as internal standards were used for quantitative determination of GDF-11 and GDF-8

Collection and Performance Characteristics

Tube type:	Preferred: SST Alternate: Plasma
Minimum Volume:	0.5 mL
Special Processing Considerations	
Lowest Reportable Value:	1 ng/mL
Dynamic range:	1-100 ng/mL
Precision:	Intra-assay variation is 6.5 – 19.5% Inter-assay variation is 8.6-16.4%
Reference Range:	Unknown