PRODUCT INFORMATION

GDF11 (human recombinant)

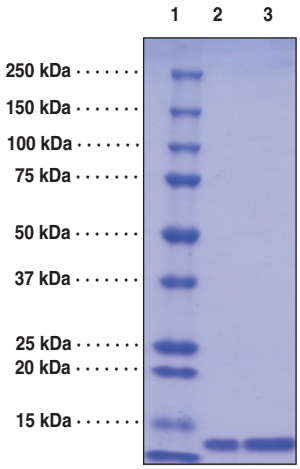
Item No. 16102

Overview and Properties

Synonyms:	BMP11, Growth/Differentiation Factor 11
Source:	Recombinant protein expressed in *E. coli*
Amino Acids:	299-407 (mature form)
Uniprot No.:	O95390
Molecular Weight:	12.5 kDa
Storage:	-80°C (as supplied)
Stability:	≥2 years
Purity:	***batch specific*** (≥90% estimated by SDS-PAGE)
Formulation:	Lyophilized. Reconstitute in water to a concentration of 0.1-1.0 mg/ml. Keep pH below 5.0. Do not vortex.
Protein Concentration:	***batch specific*** mg/ml

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Image



Lane 1: MW Markers
Lane 2: GDF11 (2 µg)
Lane 3: GDF11 (4 µg)

Representative gel image shown; actual purity may vary between each batch.

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Description

Bone morphogenetic proteins (BMP) are secreted signaling proteins, many of which are involved in various developmental processes, in addition to bone formation.[1] GDF11 is a circulating growth and differentiation factor that has age-dependent effects on development. Notably, injection of recombinant GDF11 into old mice, so that circulating levels match those in young mice, enhances vascularization in the brain, increases vessel volume, increases neural stem cell populations, and reverses cardiac hypertrophy.[2,3] These changes mimic the changes in vascular remodeling, neurogenesis, and olfactory function that are produced by providing young blood to aged mice.[2,3] In mouse embryos, GDF11 has critical roles in patterning mesodermal, skeletal, and neural tissues.[4-6]

References

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3. Loffredo, F.S., Steinhauser, M.L., Jay, S.M., *et al*. Growth differentiation factor 11 is a circulating factor that reverses age-related cardiac hypertrophy. *Cell* **153(4)**, 828-839 (2013).
4. Nakashima, M., Toyono, T., Akamine, A., *et al*. Expression of growth/differentiation factor 11, a new member of the BMP/TGFb superfamily during mouse embryogenesis. *Mech. Dev.* **80(2)**, 185-189 (1999).
5. McPherron, A.C., Lawler, A.M., and Lee, S.J. Regulation of anterior/posterior patterning of the axial skeleton by growth/differentiation factor 11. *Nat. Genet.* **22(3)**, 260-264 (1999).
6. Gamer, L.W., Wolfman, N.M., Celete, A.J., *et al*. A novel BMP expressed in developing mouse limb, spinal cord, and tail bud is a potent mesoderm inducer in *Xenopus* embryos. *Dev. Biol.* **208(1)**, 222-232 (1999).

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