

# PRODUCT INFORMATION



## GDF11 (human recombinant)

Item No. 16102

### Overview and Properties

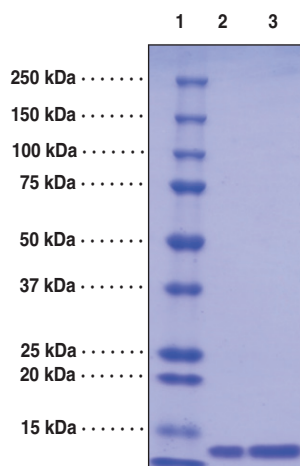
**Synonyms:** BMP11, Growth/Differentiation Factor 11  
**Source:** Recombinant protein expressed in *E. coli*  
**Amino Acids:** 299-407 (mature form)  
**Uniprot No.:** O95390  
**Molecular Weight:** 12.5 kDa  
**Storage:** -80°C (as supplied)  
**Stability:** ≥2 years  
**Purity:** *batch specific* (≥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.*

WARNING  
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA  
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY  
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## Description

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Bone morphogenetic proteins (BMP) are secreted signaling proteins, many of which are involved in various developmental processes, in addition to bone formation.<sup>1</sup> 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.<sup>2,3</sup> These changes mimic the changes in vascular remodeling, neurogenesis, and olfactory function that are produced by providing young blood to aged mice.<sup>2,3</sup> In mouse embryos, GDF11 has critical roles in patterning mesodermal, skeletal, and neural tissues.<sup>4-6</sup>

## References

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2. Katsimpardi, L., Litterman, N.K., Schein, P.A., *et al.* Vascular and neurogenic rejuvenation of the aging mouse brain by young systemic factors. *Science* **344(6184)**, 630-634 (2014).
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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).
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