

DESCRIPTION

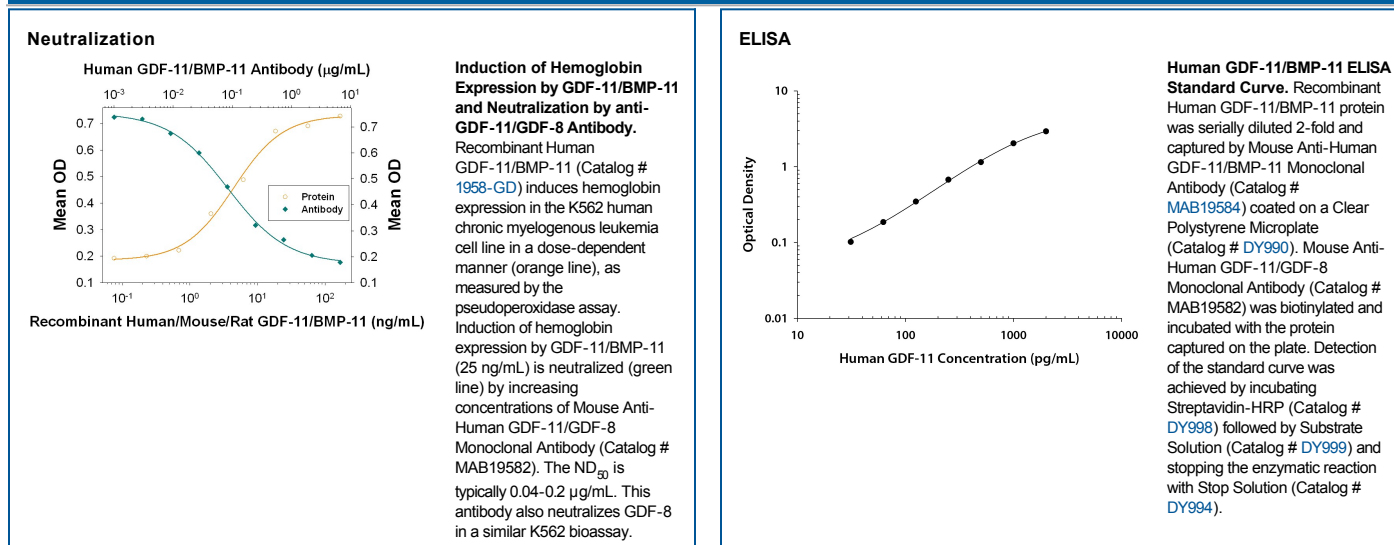
Species Reactivity	Human
Specificity	Detects human GDF-11/BMP-11 in direct ELISAs. In direct ELISAs, 100% cross-reactivity with mouse GDF-8 is observed.
Source	Monoclonal Mouse IgG ₁ Clone # 743835
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	<i>E. coli</i> -derived recombinant human GDF-11/BMP-11 Asn299-Ser407 Accession # O95390
Endotoxin Level	<0.10 EU per 1 µg of the antibody by the LAL method.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS.

APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. [General Protocols](#) are available in the Technical Information section on our website.

Neutralization	Measured by its ability to neutralize GDF-11/BMP-11 induction of hemoglobin expression in the K562 human chronic myelogenous leukemia cell line, Schwall, R.H. et al. (1991) <i>Method Enzymol.</i> 198 :340. The Neutralization Dose (ND ₅₀) is typically 0.04-0.2 µg/mL in the presence of 25 ng/mL Recombinant Human GDF-11/BMP-11. This antibody also neutralizes GDF-8 in a similar K562 bioassay.
ELISA	This antibody functions as an ELISA detection antibody when paired with Mouse Anti-Human GDF-11/BMP-11 Monoclonal Antibody (Catalog # MAB19584). <i>This product is intended for assay development on various assay platforms requiring antibody pairs. We recommend the Human GDF-11/BMP-11 DuoSet ELISA Kit (Catalog # DY1958-05) for convenient development of a sandwich ELISA.</i>

DATA



PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> 12 months from date of receipt, -20 to -70 °C as supplied. 1 month, 2 to 8 °C under sterile conditions after reconstitution. 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

Growth Differentiation Factor 11 (GDF-11), also known as BMP-11, is a member of the TGF- β superfamily and is highly related to GDF-8. GDF-11 encodes a 407 amino acid (aa) prepropeptide processed into a 109 aa mature protein. Mature GDF-11 contains the canonical 7-cysteine motif common to other TGF- β superfamily members; however, like the TGF- β s, Activins and GDF-8, GDF-11 also contains one extra pair of cysteine residues. At the amino acid sequence level, mature human, mouse, rat and chicken GDF-11 are 99-100% identical. Mature GDF-11 and GDF-8 share 90% amino acid sequence identity. GDF-11 is expressed in diverse regions of the mouse embryo: tailbud, somitic precursors, limbs, mandibular and branchial arches, dorsal neural tube, odontoblasts, nasal epithelium, and particular regions of the brain (1). GDF-11 signals through the Activin type II receptors and induces phosphorylation of Smad2 to mediate axial patterning (2). Systemic GDF-11 levels decline with age and administration of higher levels of GDF-11 can reverse age-related cardiac hypertrophy (3). In addition, systemic administration of recombinant GDF-11 protein restores genomic integrity and health of muscle stem cells, neurovasculature and enhances neurogenesis (4, 5).

References:

1. Nakashima, M. *et al.* (1999) *Mech. Dev.* **80**:185.
2. Oh, S.P. *et al.* (2002) *Genes & Dev.* **16**:274.
3. Loffredo, F.S. *et al.* (2013) *Cell*. **153**:828.
4. Katsimpardi, L. *et al.* (2014) *Science*. **344**:630.
5. Sinha, M. *et al.* (2014) *Science*. **344**:649.