

#### DESCRIPTION

<b>Species Reactivity</b>	Mouse
<b>Specificity</b>	Detects mouse GDF-8 propeptide in direct ELISAs and Western blots. In direct ELISAs, no cross-reactivity with recombinant mouse (rm) GDF-1 propeptide, rmGDF-3 propeptide, rmGDF-5, or rmGDF-6 is observed.
<b>Source</b>	Monoclonal Rat IgG <sub>2B</sub> Clone # 84231
<b>Purification</b>	Protein A or G purified from hybridoma culture supernatant
<b>Immunogen</b>	Mouse myeloma cell line NS0-derived recombinant mouse GDF-8 Asn25-Ser376 Accession # O08689
<b>Conjugate</b>	Alexa Fluor 647 Excitation Wavelength: 650 nm Emission Wavelength: 668 nm
<b>Formulation</b>	Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide  *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

#### 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.

**Western Blot** Optimal dilution of this antibody should be experimentally determined.

#### PREPARATION AND STORAGE

**Shipping** The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.

**Stability & Storage** Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied

#### BACKGROUND

Growth Differentiation Factor 8 (GDF-8), also known as Myostatin, is a secreted TGF-β superfamily protein that is expressed specifically in developing and adult skeletal muscle. It controls myoblast proliferation and is a potent negative regulator of skeletal muscle mass (1-3). Mouse GDF-8 is synthesized as a 376 amino acid (aa) preproprotein that consists of a 24 aa signal peptide, a 243 aa propeptide, and a 109 aa mature protein (2). Within the propeptide, mouse GDF-8 shares 96% and 99% aa sequence identity with human and rat GDF-8, respectively. GDF-8 is secreted as a preproprotein that is cleaved by BMP-1 family proteases to separate the 35-40 kDa propeptide from the 12 kDa bioactive mature protein (4-6). This results in a latent complex containing a disulfide-linked dimer of the mature protein and two noncovalently-associated molecules of the propeptide (2, 6). The GDF-8 propeptide functions as an inhibitor of mature GDF-8, and GDF-8 activity can also be inhibited through association with Follistatin, FLRG, Decorin, or GASP-1 (6-11). The uncleaved GDF-8 proprotein binds Latent TGF-β bp3 which can sequester it in the extracellular matrix and prevent the proteolytic cleavage of the propeptide (12). GDF-8 binds to the type II Activin receptor Activin RIIb which then associates with the type I receptors Activin RIB/ALK-4 or TGF-beta RI/ALK-5 to induce signaling (13). GDF-8 additionally inhibits adipogenic differentiation of mesenchymal stem cells and preadipocytes (14). Genetic deletion of GDF-8 or *in vivo* administration of the GDF-8 propeptide induces muscle hypertrophy as well as enhanced glucose utilization and insulin sensitivity and a reduction in overall fat mass (15, 16).

#### PRODUCT SPECIFIC NOTICES

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