

## DESCRIPTION

|                                                                                                                                                                                                         |                                                                                                          |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|
| <b>Species Reactivity</b>                                                                                                                                                                               | Mouse                                                                                                    |
| <b>Specificity</b>                                                                                                                                                                                      | Detects mouse GDF-9 in direct ELISAs.                                                                    |
| <b>Source</b>                                                                                                                                                                                           | Monoclonal Rat IgG <sub>2A</sub> Clone # 785123                                                          |
| <b>Purification</b>                                                                                                                                                                                     | Protein A or G purified from hybridoma culture supernatant                                               |
| <b>Immunogen</b>                                                                                                                                                                                        | Chinese hamster ovary cell line CHO-derived recombinant mouse GDF-9<br>Met1-Arg441<br>Accession # Q07105 |
| <b>Conjugate</b>                                                                                                                                                                                        | Alexa Fluor 647<br>Excitation Wavelength: 650 nm<br>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.

**Neutralization** Optimal dilution of this antibody should be experimentally determined.

## PREPARATION AND STORAGE

|                                |                                                                                                                   |
|--------------------------------|-------------------------------------------------------------------------------------------------------------------|
| <b>Shipping</b>                | The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below. |
| <b>Stability &amp; Storage</b> | Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied                          |

## BACKGROUND

Growth differentiation factor-9 (GDF-9) is a member of the transforming growth factor- $\beta$  (TGF- $\beta$ ) superfamily, and is an oocyte secreted paracrine factor essential for mammalian ovarian folliculogenesis (1-2). Mouse GDF-9 is synthesized as a 441 amino acid (aa) prepropeptide that contains a 29 aa signal sequence, a 277 aa propeptide, and a 135 aa mature chain. Residues 340-441 constitute a TGF- $\beta$  like domain. In addition, there is one potential site of N-linked glycosylation in the mature chain. Unlike other members of the TGF- $\beta$  superfamily, GDF-9 lacks the conserved cysteine residue that is believed to form the sole disulfide linkage between subunits in other family members (3). Mature mouse GDF-9 shares 90% aa sequence identity with mature human GDF 9. The protein is expressed throughout the development of the maturing follicle (2). GDF-9 functions as a paracrine factor in the regulation of granulosa cell proliferation and differentiation, and is essential for fertility (2, 4). Studies on GDF-9 null mice have demonstrated arrested follicular development at the primary follicle stage (5). Mouse GDF-9 induces Smad2 phosphorylation and inhibin production in rat diethylstilbestrol treated granulosa cells (6) and in human granulosa-luteal cells (7). The downstream signaling actions of GDF 9 are mediated by the type I receptor, activin receptor-like kinase 5 (ALK5), initiating the subsequent activation of Smad2 and Smad3 (2, 8). GDF 9 uses the BMP type II receptor (BMPRII) as its other signaling receptor (2, 9).

## PRODUCT SPECIFIC NOTICES

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