

## DESCRIPTION

|                           |                                                                                                                                                                                                                                                                             |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Species Reactivity</b> | Human                                                                                                                                                                                                                                                                       |
| <b>Specificity</b>        | Detects human FGF-21 in direct ELISAs.                                                                                                                                                                                                                                      |
| <b>Source</b>             | Monoclonal Goat IgG <sub>2B</sub> Clone # 40020A                                                                                                                                                                                                                            |
| <b>Purification</b>       | Protein A or G purified from cell culture supernatant                                                                                                                                                                                                                       |
| <b>Immunogen</b>          | <i>E. coli</i> -derived recombinant human FGF-21<br>His29-Ser209<br>Accession # Q9NSA1                                                                                                                                                                                      |
| <b>Conjugate</b>          | Alexa Fluor 750<br>Excitation Wavelength: 749 nm<br>Emission Wavelength: 775 nm                                                                                                                                                                                             |
| <b>Formulation</b>        | Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide<br><br>*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

Fibroblast growth factor 21 (FGF-21) is a member of the FGF gene family, which currently contains 22 human members. Based on its structure, it is further classified as an FGF19 subfamily member. This subfamily includes FGF-19, -21, and -23. Like all other FGF subfamilies, FGF-19 subfamily members contain a 120 amino acid (aa) core FGF domain that exhibits a  $\beta$ -trefoil structure (1, 2). Unlike other FGF subfamilies, FGF-19 subfamily members apparently exhibit poor binding to ECM, resulting in highly diffusible molecules (3). The c-DNA for FGF-21 predicts a 209 aa polypeptide that contains a 28 aa signal sequence and a 181 aa mature region (4). Notably, FGF-21, as well as FGF-19 show limited binding to heparin (4). One potential alternate splice form has been reported. It shows a 43 aa substitution for the C-terminal 12 aa of the standard form (5). Mature human FGF-21 shows 81% aa identity to mouse FGF-21, and is known to be active on mouse cells (4, 6). The FGF-19 subfamily is considered endocrine in nature. All three subfamily members impact some aspect of metabolism, all three are induced by a nuclear receptor heterodimer that includes RXR, and all three utilize Klotho family members for signal transduction (7, 8, 9). FGF-21 is produced by hepatocytes in response to free fatty acid (FFA) stimulation of a PPAR $\alpha$ /RXR dimeric complex (3, 7, 10, 11). This situation occurs clinically during starvation, or following the ingestion of a high-fat/low-carbohydrate diet. Upon FGF-21 secretion, white adipose tissue is induced to release FFAs from triglyceride stores. Once FFAs reach hepatocytes, they are oxidized and reduced to acetyl-CoA. The acetyl-CoA is recombined into 4-carbon ketone bodies (acetoacetate and  $\beta$ -hydroxybutyrate), released, and transported to peripheral tissues for TCA processing and energy generation (11, 12).

## PRODUCT SPECIFIC NOTICES

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