

## DESCRIPTION

|                                                                                                                                                                                                         |                                                                                 |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|
| <b>Species Reactivity</b>                                                                                                                                                                               | Human                                                                           |
| <b>Specificity</b>                                                                                                                                                                                      | Detects human WFS1 in direct ELISA.                                             |
| <b>Source</b>                                                                                                                                                                                           | Monoclonal Mouse IgG <sub>2B</sub> Clone # 1057230                              |
| <b>Purification</b>                                                                                                                                                                                     | Protein A or G purified from hybridoma culture supernatant                      |
| <b>Immunogen</b>                                                                                                                                                                                        | E. coli derived recombinant human WFS1<br>Arg653-Phe783<br>Accession # O76024   |
| <b>Conjugate</b>                                                                                                                                                                                        | Alexa Fluor 405<br>Excitation Wavelength: 405 nm<br>Emission Wavelength: 421 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.

**Immunocytochemistry** 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

WFS1 (Wolframin Syndrome gene 1; also Wolframin) is a 100-105 kDa intracellular glycoprotein that contains an unusual eleven transmembrane (TM) topology. It is widely expressed, being found in neurons, fibroblasts, hepatocytes, stratified squamous epithelium and pancreatic β-cells. WFS1 is found in the ER and select secretory vesicles. It is known to be induced by ER stress, which prompts it to increase Ca<sup>++</sup> in the ER, a condition necessary for proper protein folding. It also contributes to the maintenance of the proper pH in insulin-containing granules. Human WFS1 is 890 amino acids (aa) in length. It is a type II 11-TM protein that possesses a cytoplasmic N-terminus (aa 1-313) and transmembrane-embedded C-terminus (aa 870-890). WFS1 is reported to form homodimers and homotetramers. There are multiple mutations in the WFS1 gene that contribute to Wolfram syndrome. Among these are an isoform that generates a premature truncation at Ser157, a second isoform that possesses a seven aa substitution for aa 509-890, and a third isoform which shows a deletion of aa 508-512. Over aa 679-783, human WFS1 shares 95% aa sequence identity with mouse WFS1.

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