

## DESCRIPTION

|                           |                                                                                                                                                                                                                                                                             |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Species Reactivity</b> | Human                                                                                                                                                                                                                                                                       |
| <b>Specificity</b>        | Detects Irisin peptide in direct ELISA.                                                                                                                                                                                                                                     |
| <b>Source</b>             | Monoclonal Mouse IgG <sub>2A</sub> Clone # 1056111                                                                                                                                                                                                                          |
| <b>Purification</b>       | Protein A or G purified from hybridoma culture supernatant                                                                                                                                                                                                                  |
| <b>Immunogen</b>          | Synthetic peptide covering the C-term of the Irisin peptide sequences of the FNDC5 gene.<br><br>Glu97-Glu143<br>Accession # Q8NAU1                                                                                                                                          |
| <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<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.

**Immunocytochemistry** 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

Irisin (also known as FNDC5) is a 12 kDa glycosylated polypeptide hormone that regulates energy metabolism, stem cell differentiation, and neuronal development (1, 2). Human Irisin is synthesized as a 212 amino acid (aa) precursor encoding a type 1 transmembrane protein with a 121 aa extracellular domain (ECD), a 21 aa transmembrane domain, and a 39 aa cytoplasmic domain. The ECD of Irisin contains a fibronectin type III domain and multiple glycosylation sites. The ECD is proteolytically cleaved to release the 112 aa soluble Irisin hormone into circulation (2-5). Mature human, mouse, and rat Irisin share 100% sequence identity. Expression of Irisin is induced in skeletal muscle and subcutaneous adipose tissue during and shortly after exercise (2, 6). Irisin induces expression of peroxisome proliferator-activated receptor gamma co-activator 1 alpha (PGC1 alpha) and uncoupling protein-1 (UCP1), mitochondrial-associated metabolic proteins (7, 8). Irisin induces the transition of white adipose tissue into more metabolically active beige adipose tissue. In mice, expression of Irisin has been shown to regulate obesity and diabetes (1, 2). A similar function in humans is suggested (9). Irisin also regulates neuronal cell differentiation and neurite outgrowth in the brain and is involved in the differentiation of osteoblasts (10-14).

## PRODUCT SPECIFIC NOTICES

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