

## DESCRIPTION

<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human Irisin/FNDC5 in direct ELISAs.
<b>Source</b>	Monoclonal Mouse IgG <sub>1</sub> Clone # 936410
<b>Purification</b>	Protein A or G purified from hybridoma culture supernatant
<b>Immunogen</b>	Chinese hamster ovary cell line CHO-derived recombinant human Irisin/FNDC5 Asp32-Glu143 Accession # Q8NAU1
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS.

## 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.

<b>ELISA</b>	This antibody functions as an ELISA capture antibody when paired with Mouse Anti-Human Irisin/FNDC5 Monoclonal Antibody (Catalog # MAB9420).  <i>This product is intended for assay development on various assay platforms requiring antibody pairs.</i>
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## PREPARATION AND STORAGE

<b>Reconstitution</b>	Reconstitute at 0.5 mg/mL in sterile PBS.
<b>Shipping</b>	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
<b>Stability &amp; Storage</b>	<b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b> <ul style="list-style-type: none"> <li>● 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>● 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>● 6 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

## 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).

### References:

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