



# Recombinant Protein Technical Manual

**Recombinant Human/Mouse/Rat Irisin/FNDC5 Protein (Fc Tag)**  
RPES0211

## Product Data:

**Product SKU:** RPES0211

**Size:** 10µg

**Species:** Human/Mouse/Rat

**Expression host:** Human Cells

**Uniprot:** Q8NAU1

## Protein Information:

**Molecular Mass:** 39.7 kDa

**AP Molecular Mass:** 50-60 kDa

**Tag:** C-Fc

**Bio-activity:**

**Purity:** > 95% as determined by reducing SDS-PAGE.

**Endotoxin:** < 1.0 EU per µg as determined by the LAL method.

**Storage:** Lyophilized protein should be stored at < -20°C, though stable at room temperature for 3 weeks. Reconstituted protein solution can be stored at 4-7°C for 2-7 days. Aliquots of reconstituted samples are stable at < -20°C for 3 months.

**Shipping:** This product is provided as lyophilized powder which is shipped with ice packs.

**Formulation:** Lyophilized from a 0.2 µm filtered solution of PBS, pH7.4.

**Reconstitution:** Please refer to the printed manual for detailed information.

**Application:**

**Synonyms:** Fibronectin type III domain-containing protein 5; Fibronectin type III repeat-containing protein 2; Irisin; FNDC5

## Immunogen Information:

**Sequence:** Asp32-Glu143

## Background:

Fibronectin type III domain-containing protein 5, the precursor of irisin, is a protein that is encoded by the FNDC5 gene. 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. Mature human, mouse share 100% sequence identity. Irisin induces expression of peroxisome proliferator-activated receptor  $\gamma$  coactivator 1 $\alpha$  (PGC1 $\alpha$ ) and uncoupling protein 1 (UCP1), mitochondrial-associated metabolic proteins. Irisin induces the transition of white adipose tissue into more metabolically active beige adipose tissue. Irisin also regulates neuronal cell differentiation and neurite outgrowth in the brain and is involved in the differentiation of osteoblasts.