Human Irisin/FNDC5 Antibody

Monoclonal Mouse IgG_{2A} Clone # 1056126

Catalog Number: MAB94202

DESCRIPTION

Species Reactivity	Human
Specificity	Detects Irisin peptide in direct ELISA.
Source	Monoclonal Mouse IgG_{2A} Clone # 1056126
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Synthetic peptide covering the C-term of the Irisin peptide sequences of the FNDC5 gene. Glu97-Glu143 Accession # Q8NAU1
Formulation	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.

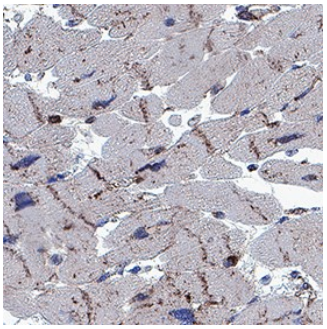
APPLICATIONS

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.*

	Recommended Concentration	Sample
Immunohistochemistry	5-25 µg/mL	Immersion fixed paraffin-embedded sections of Human Heart.

DATA

Immunohistochemistry



Detection of Irisin/FNDC5 in Human Heart. Irisin/FNDC5 was detected in immersion fixed paraffin-embedded sections of Human Heart using Mouse Anti-Human Irisin/FNDC5 Monoclonal Antibody (Catalog # MAB94202) at 5 µg/mL for 1 hour at room temperature followed by incubation with the Anti-Mouse IgG VisUCyte™ HRP Polymer Antibody (Catalog # VC001). Before incubation with the primary antibody, tissue was subjected to heat-induced epitope retrieval using VisUCyte Antigen Retrieval Reagent-Basic (Catalog # VCTS021). Tissue was stained using DAB (brown) and counterstained with hematoxylin (blue). Specific staining was localized to intercalated disks. View our protocol for IHC Staining with VisUCyte HRP Polymer Detection Reagents.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	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
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** • 12 months from date of receipt, -20 to -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 6 months, -20 to -70 °C under sterile conditions after reconstitution.

bio-techne®
Global bio-techne.com info@bio-techne.com techsupport@bio-techne.com TEL +1 612 379 2956
USA TEL 800 343 7475 Canada TEL 855 668 8722 China TEL +86 (21) 52380373
Europe | Middle East | Africa TEL +44 (0)1235 529449

Human Irisin/FNDC5 Antibody

Monoclonal Mouse IgG_{2A} Clone # 1056126

Catalog Number: MAB94202

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:

1. Bostrom, P. *et al.* (2012) Nature **481**:463.
2. Novelle, M.G. *et al.* (2013) Int. J. Endocrinol. **2013**:746281.
3. Ferrer-Martinez, A. *et al.* (2002) Dev. Dyn. **224**:154.
4. Teufel, A. *et al.* (2002) Gene **297:**79.
5. Zhang, W. *et al.* (2015) Neurosci. Lett. **595**:7.
6. Roca-Rivada, A. *et al.* (2013) PLoS One **8**:e60563.
7. Vaughan, R.A. *et al.* (2014) Diabetes Obes. Metab. **16:**711.
8. Jeong Lee, H. *et al.* (2015) Mol. Endocrinol. **6:**873.
9. Elsen, M. *et al.* (2014) J. Endocrinol. **222**:R25.
10. Dun, S.L. *et al.* (2013) Neuroscience **240**:155.
11. Forouzanfar, M. *et al.* (2015) Cell. Biol. Int. **39**:629.
12. Hashemi, M.S. *et al.* (2013) Neuroscience **231**:296.
13. Moon, H.S. *et al.* (2013) Metabolism **62**:1131.
14. Colaianni, G. *et al.* (2014) Int. J. Endocrinol. **2014**:902186.

bio-techne®
Global bio-techne.com info@bio-techne.com techsupport@bio-techne.com TEL +1 612 379 2956
USA TEL 800 343 7475 **Canada** TEL 855 668 8722 **China** TEL +86 (21) 52380373
Europe | Middle East | Africa TEL +44 (0)1235 529449