

IRAP (H-133): sc-135229

BACKGROUND

IRAP (insulin-responsive aminopeptidase), also known as LNPEP (leucyl-cystinyl aminopeptidase), OTase (oxytocinase) or P-LAP (placental leucine aminopeptidase), is a 1,025 amino acid protein that is highly expressed in placenta, heart, kidney and small intestine and at lower levels in neuronal cells in brain, in skeletal muscle, spleen, liver, testes and colon. IRAP belongs to the peptidase M1 family and is thought to play a role in the degradation of hormones such as oxytocin, vasopressin and Angiotensin III. IRAP maintains homeostasis during pregnancy and may be involved in the inactivation of neuronal peptides in the brain. It is suggested that IRAP regulates the trafficking of the Insulin-responsive glucose transporter Glut4, thereby influencing glucose uptake in cells. IRAP interacts with Tankyrase-1 and Tankyrases-2, which are novel signaling targets of extracellular signal-regulated kinase (ERK) in the Golgi. Three isoforms exist due to alternative splicing.

REFERENCES

1. Chi, N.W. and Lodish, H.F. 2000. Tankyrase is a golgi-associated mitogen-activated protein kinase substrate that interacts with IRAP in Glut4 vesicles. *J. Biol. Chem.* 275: 38437-38444.
2. Sbdio, J.I., et al. 2002. Tankyrase-2 oligomerizes with Tankyrase-1 and binds to both TRF1 (telomere-repeat-binding factor 1) and IRAP (insulin-responsive aminopeptidase). *Biochem. J.* 361: 451-459.
3. Yeh, T.Y., et al. 2007. Insulin-stimulated exocytosis of Glut4 is enhanced by IRAP and its partner tankyrase. *Biochem. J.* 402: 279-290.
4. Fernando, R.N., et al. 2007. Subcellular localization of Insulin-regulated membrane aminopeptidase, IRAP to vesicles in neurons. *J. Neurochem.* 102: 967-976.
5. Chai, S.Y., et al. 2008. Development of cognitive enhancers based on inhibition of Insulin-regulated aminopeptidase. *BMC Neurosci.* 9: S14.
6. Fernando, R.N., et al. 2008. The Insulin-regulated aminopeptidase IRAP is colocalised with GLUT4 in the mouse hippocampus—potential role in modulation of glucose uptake in neurons? *Eur. J. Neurosci.* 28: 588-598.

CHROMOSOMAL LOCATION

Genetic locus: LNPEP (human) mapping to 5q15; Lnpep (mouse) mapping to 17 A3.2.

SOURCE

IRAP (H-133) is a rabbit polyclonal antibody raised against amino acids 15-144 mapping near the N-terminus of IRAP of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

IRAP (H-133) is recommended for detection of IRAP of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

IRAP (H-133) is also recommended for detection of IRAP in additional species, including equine, canine, porcine and avian.

Suitable for use as control antibody for IRAP siRNA (h): sc-91674, IRAP siRNA (m): sc-146283, IRAP shRNA Plasmid (h): sc-91674-SH, IRAP shRNA Plasmid (m): sc-146283-SH, IRAP shRNA (h) Lentiviral Particles: sc-91674-V and IRAP shRNA (m) Lentiviral Particles: sc-146283-V.

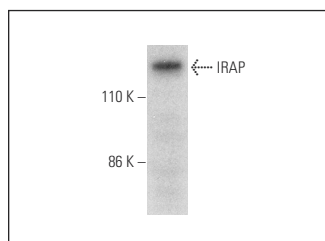
Molecular Weight of IRAP: 140 kDa.

Positive Controls: mouse brain extract: sc-2253.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



IRAP (H-133): sc-135229. Western blot analysis of IRAP expression in mouse brain tissue extract.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

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Try **IRAP (F-5): sc-365300** or **IRAP (E-12): sc-365051**, our highly recommended monoclonal alternatives to IRAP (H-133).