Revision 1

Store at -20C

#3808

IRAP Antibody

Cell Signaling TECHNOLOGY®

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For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source:	UniProt ID:	Entrez-Gene Id:
WB, IP, IF-IC	H M	Endogenous	165	Rabbit	#Q9UIQ6	4012

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Immunoprecipitation	1:50
Immunofluorescence (Immunocytochemistry)	1:50

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at –20°C. Do not aliquot the antibody.

Specificity / Sensitivity

IRAP Antibody detects endogenous levels of total IRAP protein.

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to the sequence of human IRAP protein. Antibodies are purified by protein A and peptide affinity chromatography.

Background

IRAP (also known as LNPEP) was originally described as an insulin-responsive aminopeptidase found in Glut4-containing vesicles (1). It is essentially always in the same compartments as Glut4 and has identical insulin-stimulated translocation patterns as Glut4 (2). IRAP is therefore considered to be a surrogate marker for Glut4 (2). IRAP was later found to be a critical enzyme that regulates the expression and activity of several essential hormones and regulatory proteins, including the Glut4 transporter (3,4). This membrane associated, zinc-dependent cystinyl aminopeptidase acts as both a receptor for angiotensin IV as well as the enzyme that catalyzes the synthesis of this essential hormone from its angiotensinogen precursor (5). IRAP catalyzes the hydrolysis of several peptide hormones, including oxytocin and vasopressin (4). Abnormal IRAP expression or activity is associated with several forms of cancer in humans, including renal and endometrial cancers (6,7).

Background References

1. Garza, L.A. and Birnbaum, M.J. (2000) *J Biol Chem* 275, 2560-7.
2. Gross, D.N. et al. (2004) *Mol Cell Biol* 24, 7151-62.
3. Albiston, A.L. et al. (2001) *J Biol Chem* 276, 48623-6.
4. Keller, S.R. (2003) *Front Biosci* 8, s410-20.
5. Vanderheyden, P.M. (2009) *Mol Cell Endocrinol* 302, 159-66.
6. Larrinaga, G. et al. (2007) *Regul Pept* 144, 56-61.
7. Suzuki, Y. et al. (2003) *Clin Cancer Res* 9, 1528-34.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

WB: Western Blotting **IP:** Immunoprecipitation **IF-IC:** Immunofluorescence (Immunocytochemistry)

Cross-Reactivity Key

H: human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **Mi:** mink **C:** chicken **Dm:** D. melanogaster **X:** Xenopus **Z:** zebrafish **B:** bovine **Dg:** dog **Pg:** pig **Sc:** S. cerevisiae **Ce:** C. elegans **Hr:** horse **GP:** Guinea Pig **Rab:** rabbit **All:** all species expected

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