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IRAP (D7C5) XP® Rabbit mAb

Cell Signaling TECHNOLOGY®

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For Research Use Only. Not For Use In Diagnostic Procedures.

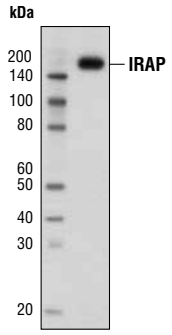
Entrez-Gene ID #4012
Swiss-Prot Acc. #Q9UIQ6

Applications	Species Cross-Reactivity*	Molecular Wt.	Isotype
W, IP, IF-IC	H, M, R, Mk	165 kDa	Rabbit IgG**
Endogenous			

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).

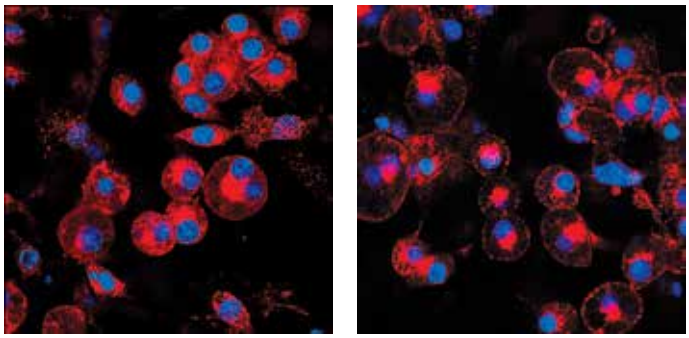
Specificity/Sensitivity: IRAP (D7C5) XP® Rabbit mAb recognizes endogenous levels of total IRAP protein.

Source/Purification: Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues near the amino terminus of human IRAP protein.



Western blot analysis of C2C12 cells using IRAP (D7C5) XP® Rabbit mAb.

LY294002-treated **Insulin-treated**



Confocal immunofluorescent analysis of differentiated 3T3-L1 cells, treated with LY294002 #9901 (50 µM for 2 hrs; left) or insulin (100 nM for 30 min; right) using IRAP (D7C5) XP® Rabbit mAb (red). Blue pseudocolor = DRAQ5® #4084 (fluorescent DNA dye).

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

Storage: Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at –20°C. *Do not aliquot the antibody.*

***Species cross-reactivity is determined by western blot.**

****Anti-rabbit secondary antibodies must be used to detect this antibody.**

Recommended Antibody Dilutions:

Western blotting	1:1000
Immunoprecipitation	1:50
Immunofluorescence (IF-IC)	1:250

For application specific protocols please see the web page for this product at www.cellsignal.com.

Please visit www.cellsignal.com for a complete listing of recommended companion products.

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.

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Applications Key: **W**—Western **IP**—Immunoprecipitation **IHC**—Immunohistochemistry **ChIP**—Chromatin Immunoprecipitation **IF**—Immunofluorescence **F**—Flow cytometry **E-P**—ELISA-Peptide
Species Cross-Reactivity Key: **H**—human **M**—mouse **R**—rat **Hm**—hamster **Mk**—monkey **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 **All**—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.