



# TBC1D4 (phospho Thr642) Polyclonal Antibody

|                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Catalog No</b>                  | YP-Ab-03609                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Isotype</b>                     | IgG                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Reactivity</b>                  | Human;Mouse                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Applications</b>                | WB;IHC;IF;ELISA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Gene Name</b>                   | TBC1D4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Immunogen</b>                   | The antiserum was produced against synthesized peptide derived from human AS160 around the phosphorylation site of Thr642. AA range:611-660                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Specificity</b>                 | Phospho-TBC1D4 (T642) Polyclonal Antibody detects endogenous levels of TBC1D4 protein only when phosphorylated at T642.                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Formulation</b>                 | Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% sodium azide.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Source</b>                      | Polyclonal, Rabbit,IgG                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Purification</b>                | The antibody was affinity-purified from rabbit antiserum by affinity-chromatography using epitope-specific immunogen.                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Dilution</b>                    | Immunohistochemistry: 1/100 - 1/300. Immunofluorescence: 1/200 - 1/1000. ELISA: 1/5000. Not yet tested in other applications.                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Concentration</b>               | 1 mg/ml                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Purity</b>                      | ≥90%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Storage Stability</b>           | -20°C/1 year                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Synonyms</b>                    | Acrg embryonic lethality (mouse) minimal region ortholog;Acrg embryonic lethality minimal region ortholog;Acrg embryonic lethality mouse minimal region ortholog;Akt substrate of 16 kDa;AS 16;AS16;BUB2;CDC16;KIAA63;NIDDM5;TBC (Tre 2 BUB2 CDC16) domain containing protein;TBC Tre 2 BUB2 CDC16 domain containing protein;TBC1 D4;TBC1 domain family member 4;Tbc1d4;TBCD4_HUMAN;Tre-2;AS160;KIAA0603;Akt substrate of 160 kDa                                                                                                                                |
| <b>Observed Band</b>               | 150kD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Calculated Molecular Weight</b> | 150kD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Cell Pathway</b>                | Cytoplasm . Isoform 2 shows a cytoplasmic perinuclear localization in a myoblastic cell line in resting and insulin-stimulated cells.                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Tissue Specificity</b>          | Widely expressed. Isoform 2 is the highest overexpressed in most tissues. Isoform 1 is highly expressed in skeletal muscle and heart, but was not detectable in the liver nor in adipose tissue. Isoform 2 is strongly expressed in adrenal and thyroid gland, and also in lung, kidney, colon, brain and adipose tissue. Isoform 2 is moderately expressed in skeletal muscle. Expressed in pancreatic Langerhans islets, including beta cells (at protein level). Expression is decreased by twofold in pancreatic islets in type 2 diabetes patients compared |



to control subjects. Up-regulated in T-cells from patients with atopic dermatitis.

#### Function

disease: May be involved in atopic dermatitis (AD)., function: May act as a GTPase-activating protein for RAB2A, RAB8A, RAB10 and RAB14. Isoform 2 promotes insulin-induced glucose transporter SLC2A4/GLUT4 translocation at the plasma membrane, thus increasing glucose uptake., PTM: Insulin-stimulated phosphorylation is required for SLC2A4/GLUT4 translocation., PTM: Phosphorylated by AKT1; insulin-induced., PTM: Physiological hyperinsulinemia increases phosphorylation in skeletal muscle. Insulin-stimulated phosphorylation is reduced by 39% in type 2 diabetic patients., similarity: Contains 1 Rab-GAP TBC domain., similarity: Contains 2 PID domains., subcellular location: Isoform 2 shows a cytoplasmic perinuclear localization in a myoblastic cell line in resting and insulin-stimulated cells., tissue specificity: Widely expressed, but differential expression for isoforms 1 and 2, with highest overall expressio

#### Background

This gene is a member of the Tre-2/BUB2/CDC16 domain family. The protein encoded by this gene is a Rab-GTPase-activating protein, and contains two phosphotyrosine-binding domains (PTB1 and PTB2), a calmodulin-binding domain (CBD), a Rab-GTPase domain, and multiple AKT phosphomotifs. This protein is thought to play an important role in glucose homeostasis by regulating the insulin-dependent trafficking of the glucose transporter 4 (GLUT4), important for removing glucose from the bloodstream into skeletal muscle and fat tissues. Reduced expression of this gene results in an increase in GLUT4 levels at the plasma membrane, suggesting that this protein is important in intracellular retention of GLUT4 under basal conditions. When exposed to insulin, this protein is phosphorylated, dissociates from GLUT4 vesicles, resulting in increased GLUT4 at the cell surface, and enhanced glucose transport. Ph

#### matters needing attention

Avoid repeated freezing and thawing!

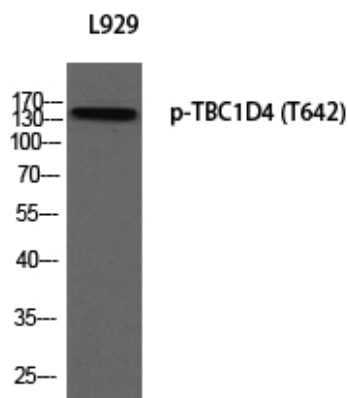
#### Usage suggestions

This product can be used in immunological reaction related experiments. For more information, please consult technical personnel.

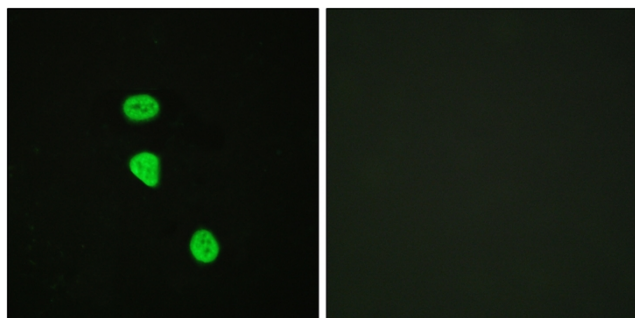


## Products Images

Western blot analysis of L929 using p-TBC1D4 (T642) antibody. Antibody was diluted at 1:2000



Immunofluorescence analysis of HeLa cells, using AS160 (Phospho-Thr642) Antibody. The picture on the right is blocked with the phospho peptide.



Immunohistochemistry analysis of paraffin-embedded human lung carcinoma, using AS160 (Phospho-Thr642) Antibody. The picture on the right is blocked with the phospho peptide.

