

ARG30151

Glucose uptake: Insulin Receptor Dependent Pathway Antibody Panel (GLUT4, AKT pS473, IRS1 pS636)

Package: 1 kit
Store at: -20°C

Component

Cat. No.	Component Name	Host clonality	Reactivity	Application	Package
ARG51720	anti-IRS1 phospho (Ser636) antibody	Rabbit pAb	Hu, Ms, Rat	IHC-P, WB	50 µl
ARG51558	anti-Akt phospho (Ser473) antibody	Rabbit pAb	Hu, Ms, Rat	ICC/IF, IHC-P, WB	50 µl
ARG65292	anti-GLUT4 antibody	Goat pAb	Hu, Ms, Rat	IHC-P, WB	50 µg
ARG65351	Goat anti-Rabbit IgG antibody (HRP)	Goat pAb	Rb	ELISA, IHC-P, WB	50 µl
ARG65352	Donkey anti-Goat IgG antibody (HRP)	Donkey pAb	Goat	ELISA, IHC-P, WB	50 µl

Summary

Product Description

Glucose is the primary energy source for most cells of the body. The study of glucose metabolism is central to cell proliferation, growth, survival, and most recently, tumor progression. Insulin stimulates glucose uptake from blood into skeletal muscle and adipose tissue through a signaling cascade mediated by the insulin receptor (IR). Insulin binding to the IR results in activation of the insulin receptor substrate (IRS) protein and subsequent signaling to the PI3K/Akt pathways, resulting in translocation of Glut4 vesicles, glucose uptake, cell proliferation, and survival. Otherwise, glucose uptake also can be stimulated by adrenoceptor. Upon ligand binding, b3-adrenoceptors result in increased levels of intracellular cAMP that lead to increased de novo synthesis of GLUT1 and mTORC2 phosphorylation. The newly produced GLUT1 is then translocated to the plasma membrane and helps the glucose uptake from blood.

These two antibody PANELS can be used to identify the glucose uptake through insulin or adrenoceptors dependent pathway.

Mihaylova MM, Shaw RJ (2011) Nat. Cell Biol. 13(9), 1016–23.
Zemva J, Schubert M (2011) Curr Diabetes Rev 7(5), 356–66.
Olsen, J. M. et al (2014) J. Cell Biol. 207(3), 365–374.

Target Name

Glucose uptake: Insulin Receptor Dependent Pathway

Alternate Names

Glucose uptake: Insulin Receptor Dependent Pathway antibody; Akt phospho (Ser473) antibody; IRS1 phospho (Ser636) antibody; GLUT4 antibody

Properties

Storage instruction

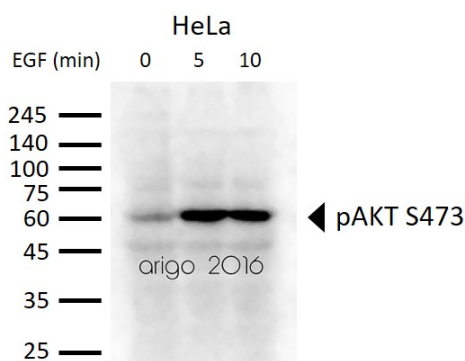
For continuous use, store undiluted antibody at 2-8°C for up to a week. For long-term storage, aliquot and store at -20°C or below. Storage in frost free freezers is not recommended. Avoid repeated freeze/thaw cycles. Suggest spin the vial prior to opening. The antibody solution should be gently mixed before use.

Note

For laboratory research only, not for drug, diagnostic or other use.

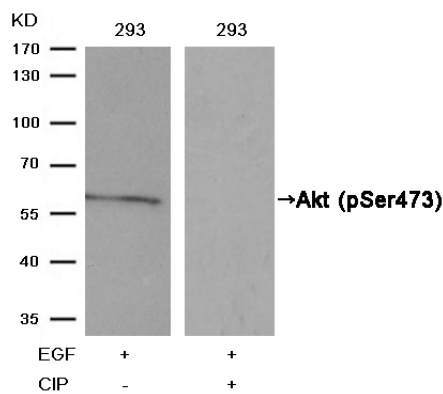
Gene Full Name	Antibody Panel for Glucose uptake: Insulin Receptor Dependent Pathway (GLUT4, AKT pS473, IRS1 pS636)
Highlight	Related Product: anti-GLUT4 antibody ;
Research Area	Cancer antibody; Cell Biology and Cellular Response antibody; Cell Death antibody; Controls and Markers antibody; Developmental Biology antibody; Gene Regulation antibody; Immune System antibody; Metabolism antibody; Neuroscience antibody; Signaling Transduction antibody

Images



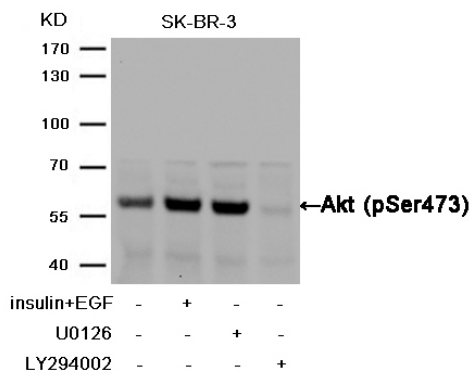
ARG51558 anti-Akt phospho (Ser473) antibody WB image

Western blot: 30 µg of HeLa cells untreated or treated with EGF. Lysates stained with ARG51558 anti-Akt phospho (Ser473) antibody at 1:500 dilution.



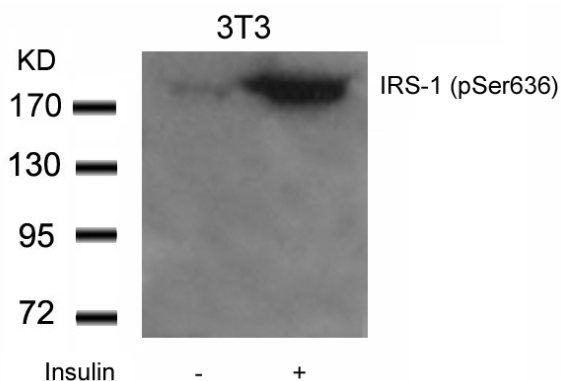
ARG51558 anti-Akt phospho (Ser473) antibody WB image

Western Blot: extracts from 293 cells, treated with EGF or calf intestinal phosphatase (CIP), stained with anti-Akt (phospho Ser473) antibody ARG51558.



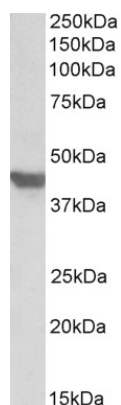
ARG51558 anti-Akt phospho (Ser473) antibody WB image

Western Blot: extracts from SK-BR-3 cells, treated with insulin and EGF, and pretreated with U0126 and LY294002 cells stained with anti-Akt (phospho Ser473) antibody ARG51558.



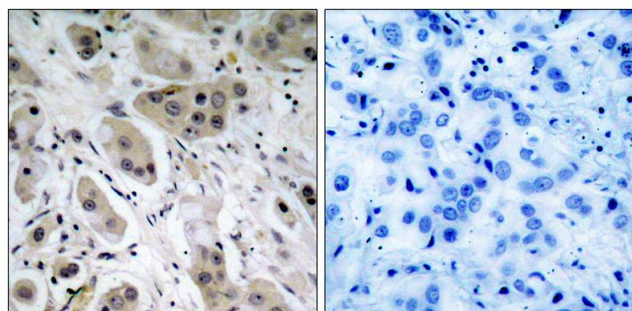
ARG51720 anti-IRS-1 phospho (Ser636) antibody WB image

Western Blot: extracts from 3T3 cells untreated or treated with Insulin stained with anti-IRS-1 (phospho Ser636) antibody ARG51720.



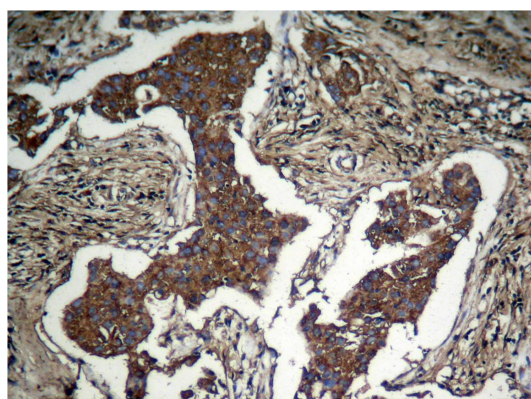
ARG65292 anti-SLC2A4 / GLUT4 antibody WB image

Western Blot: Mouse Heart lysate (35 µg protein in RIPA buffer) stained with ARG65292 anti-SLC2A4 / GLUT4 antibody at 1 µg/ml dilution.



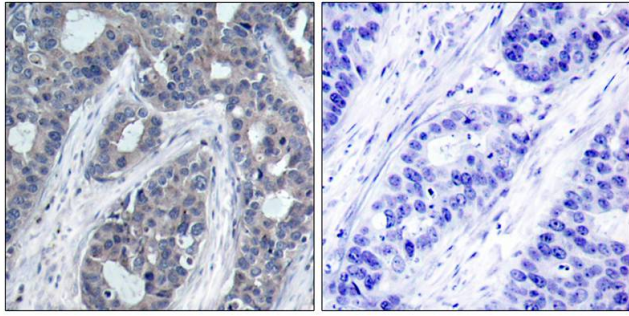
ARG51558 anti-Akt phospho (Ser473) antibody IHC-P image

Immunohistochemistry: paraffin-embedded human breast carcinoma tissue stained with anti-Akt (phospho Ser473) antibody ARG51558 (left) or the same antibody preincubated with blocking peptide (right).



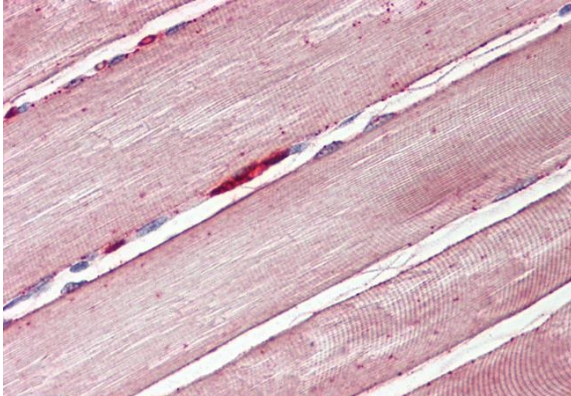
ARG51558 anti-Akt phospho (Ser473) antibody IHC-P image

Immunohistochemistry: paraffinembeddedhuman Lung carcinoma tissue stained with anti-Akt (phospho Ser473) antibody ARG51558.



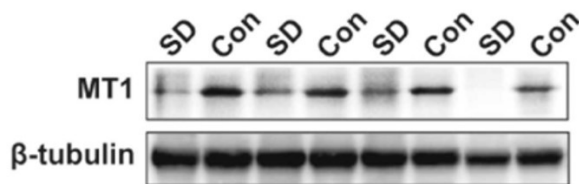
ARG51720 anti-IRS-1 phospho (Ser636) antibody IHC-P image

Immunohistochemistry: paraffin-embedded human breast carcinoma tissue stained with anti-IRS-1 (phospho Ser636) antibody ARG51720 (left) or the same antibody preincubated with blocking peptide (right).



ARG65292 anti-GLUT4 antibody IHC-P image

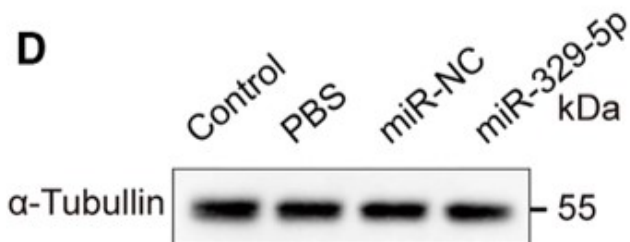
Immunohistochemistry: Paraffin-embedded Human skeletal muscle tissue. Antigen Retrieval: Steam tissue section in Citrate buffer (pH 6.0). The tissue section was stained with ARG65292 anti-GLUT4 antibody at 3.75 µg/ml dilution followed by AP-staining.



ARG65351 Goat anti-Rabbit IgG antibody (HRP) WB image

Western blot: Rat placental stained with [ARG57589 anti-MTNR1A antibody](#) at 1:1000 dilution, ARG65351 Goat anti-Rabbit IgG antibody (HRP) at 1:5000 dilution.

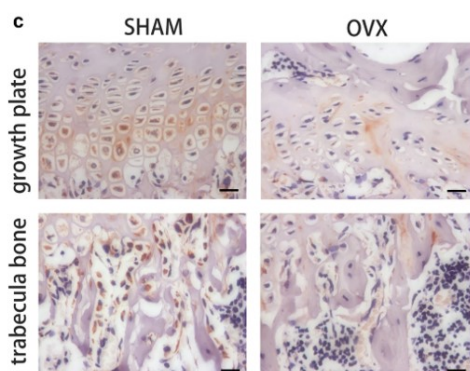
From Jinzhi Li et al. J Reprod Immunol. (2023), [doi: 10.1016/j.jri.2023.104166](#), Fig. 2.B.



ARG65351 Goat anti-Rabbit IgG antibody (HRP) WB image

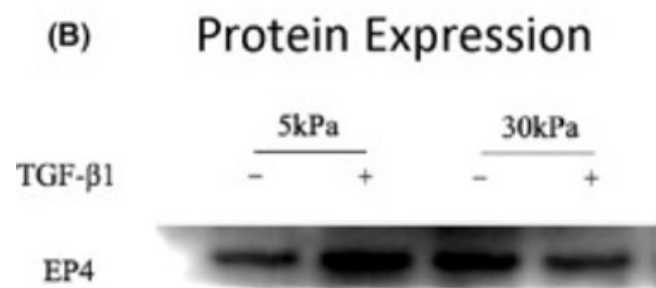
Western blot: Mouse retina stained with [ARG65693 anti-alpha Tubulin antibody](#) and ARG65351 Goat anti-Rabbit IgG antibody (HRP)

From Xiaoyuan Ye et al. Mol Ther Nucleic Acids. (2024), [doi: 10.1016/j.omtn.2024.102209](#), Fig. 5.D.



ARG65351 Goat anti-Rabbit IgG antibody (HRP) IHC-P image

From Yu-Qian Song et al. J Mol Med (Berl) (2022), [doi: 10.1007/s00109-021-02165-0](#), Fig. 5.c.



ARG65352 Donkey anti-Goat IgG antibody (HRP) WB image

Western blot: Endometrial Stromal cells stained with [ARG63922 anti-EP4 prostaglandin Receptor antibody](#) at 1:1000 dilution and ARG65352 Donkey anti-Goat IgG antibody (HRP).

From Qingqing Huang et al. Reprod Med Biol. (2021), [doi: 10.1002/rmb2.12423](#), Fig. 3.C.