

## Datasheet: 4670-1725GA

<b>Description:</b>	MOUSE ANTI GLUCOSE TRANSPORTER 4
<b>Specificity:</b>	GLUCOSE TRANSPORTER 4
<b>Other names:</b>	GLUT4
<b>Format:</b>	Purified
<b>Product Type:</b>	Monoclonal Antibody
<b>Clone:</b>	1F8
<b>Isotype:</b>	IgG1
<b>Quantity:</b>	0.1 mg

## Product Details

### Applications

This product has been reported to work in the following applications. This information is derived from testing within our laboratories, peer-reviewed publications or personal communications from the originators. Please refer to references indicated for further information. For general protocol recommendations, please visit [www.bio-rad-antibodies.com/protocols](http://www.bio-rad-antibodies.com/protocols).

	Yes	No	Not Determined	Suggested Dilution
Immunohistology - Frozen	▪			
Immunohistology - Paraffin	▪			
ELISA			▪	
Immunoprecipitation	▪			
Western Blotting	▪			
Immunofluorescence	▪			

Where this product has not been tested for use in a particular technique this does not necessarily exclude its use in such procedures. Suggested working dilutions are given as a guide only. It is recommended that the user titrates the product for use in their own system using the appropriate negative/positive controls.

<b>Target Species</b>	Rat
<b>Species Cross Reactivity</b>	Reacts with: Mouse, Monkey, Rabbit, Human, Pig Does not react with: Dog <b>N.B.</b> Antibody reactivity and working conditions may vary between species.
<b>Product Form</b>	Purified IgG - liquid
<b>Preparation</b>	Purified IgG prepared by affinity chromatography on Protein G from tissue culture supernatant
<b>Buffer Solution</b>	Phosphate buffered saline
<b>Preservative Stabilisers</b>	0.09% Sodium Azide (NaN <sub>3</sub> )
<b>Carrier Free</b>	Yes
<b>Approx. Protein</b>	IgG concentration 1.0mg/ml

## Concentrations

**Immunogen** Partially purified vesicles containing insulin-responsive glucose transporter 4.

## External Database

### Links

#### UniProt:

[P19357](#) [Related reagents](#)

[P14672](#) [Related reagents](#)

[P14142](#) [Related reagents](#)

#### Entrez Gene:

[25139](#) Slc2a4 [Related reagents](#)

[6517](#) SLC2A4 [Related reagents](#)

[20528](#) Slc2a4 [Related reagents](#)

## Synonyms

Glut4, Glut-4, GLUT4

## Specificity

**Mouse anti glucose transporter 4 antibody, clone 1F8** originally raised against rat intracellular low density microsomes ([James et al. 1987](#)) recognizes an epitope in the cytoplasmic region of Glucose transporter 4 (GLUT4), an insulin-regulated facilitative glucose transporter found in adipose tissue and striated muscle. When stimulated by insulin, GLUT4 translocates from intracellular stores to the cell surface, facilitating passive diffusion of circulating glucose into muscle and fat cells. GLUT4 is also stimulated to locate to the cell surface by muscle contraction, particularly in cardiac muscle ([James et al. 1988](#)).

Mouse anti glucose transporter 4 antibody, clone 1F8 has been used successfully to demonstrate the localization of GLUT4 to the basolateral side of ductal structures in the rat submandibular salivary gland in formalin fixed, paraffin embedded material ([Cetik et al. 2014](#)).

## References

1. James, D.E. *et al.* (1988) Insulin-regulatable tissues express a unique insulin-sensitive glucose transport protein. [Nature. 333 \(6169\): 183-5.](#)
2. James, D.E. *et al.* (1989) Molecular cloning and characterization of an insulin-regulatable glucose transporter. [Nature. 338 \(6210\): 83-7.](#)
3. Cleasby, M.E. *et al.* (2003) Programming of rat muscle and fat metabolism by *in utero* overexposure to glucocorticoids. [Endocrinology. 144 \(3\): 999-1007.](#)
4. Huang, J., *et al.* (2001) Insulin can regulate GLUT4 internalization by signaling to Rab5 and the motor protein dynein. [Proc Natl Acad Sci U S A. 98:13084-13089.](#)
5. Farese, R.V. *et al.* (2007) Muscle-specific knockout of PKC-lambda impairs glucose transport and induces metabolic and diabetic syndromes. [J Clin Invest. 117: 2289-301.](#)
6. Grainger, D.L. *et al.* (2011) Involvement of phosphatidylinositol 5-phosphate in insulin-stimulated glucose uptake in the L6 myotube model of skeletal muscle. [Pflugers Arch. 462: 723-32.](#)
7. Minakawa, M. *et al.* (2011) Hypoglycemic effect of resveratrol in type 2 diabetic model db/db mice and its actions in cultured L6 myotubes and RIN-5F pancreatic  $\beta$ -cells. [J Clin Biochem Nutr. 48: 237-44.](#)
8. Gillies, R.M. *et al.* (2011) Immunohistochemical assessment of intrinsic and extrinsic markers of hypoxia in reproductive tissue: differential expression of HIF1 $\alpha$  and HIF2 $\alpha$  in rat oviduct and endometrium. [J Mol Histol. 42: 341-54.](#)
9. Aksentijević, D. *et al.* (2009) Insulin resistance and altered glucose transporter 4 expression in experimental uremia. [Kidney Int. 75: 711-8.](#)
10. Imamura, T. *et al.* (2001) beta -Arrestin-mediated recruitment of the Src family kinase Yes mediates endothelin-1-stimulated glucose transport. [J Biol Chem. 276 \(47\): 43663-7.](#)
11. Allard, M.F. *et al.* (2000) Hypertrophied rat hearts are less responsive to the metabolic and

functional effects of insulin. [Am J Physiol Endocrinol Metab. 279 \(3\): E487-93.](#)

12. Lalioti, V.S. *et al.* (2002) The insulin-sensitive glucose transporter, GLUT4, interacts physically with Daxx. Two proteins with capacity to bind Ubc9 and conjugated to SUMO1. [J Biol Chem. 277: 19783-91.](#)

13. Spargo, F.J. *et al.* (2007) Dysregulation of muscle lipid metabolism in rats selectively bred for low aerobic running capacity. [Am J Physiol Endocrinol Metab. 292: E1631-6.](#)

14. Cetik, S. *et al.* (2014) Expression and Localization of Glucose Transporters in Rodent Submandibular Salivary Glands. [Cell Physiol Biochem. 33: 1149-1161.](#)

15. de Laat, M.A. *et al.* (2015) AICAR administration affects glucose metabolism by upregulating the novel glucose transporter, GLUT8, in equine skeletal muscle. [Vet J. 205 \(3\): 381-6.](#)

16. Lee, Y-S. *et al.* (2015) Honokiol, magnolol, and a combination of both compounds improve glucose metabolism in high-fat diet-induced obese mice [Food Sci Biotech. 24 \(4\): 1467-74.](#)

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**Further Reading**

1. Berger, J. *et al.* (1989) Decreased expression of the insulin-responsive glucose transporter in diabetes and fasting. [Nature. 340 \(6228\): 70-2.](#)

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**Storage**

Store at +4°C or at -20°C if preferred.

Storage in frost-free freezers is not recommended.

This product should be stored undiluted. Avoid repeated freezing and thawing as this may denature the antibody. Should this product contain a precipitate we recommend microcentrifugation before use.

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**Shelf Life**

18 months from date of despatch.

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**Health And Safety Information**

Material Safety Datasheet documentation #10040 available at: 10040: <https://www.bio-rad-antibodies.com/uploads/MSDS/10040.pdf>

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**Regulatory**

For research purposes only

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## Related Products

### Recommended Secondary Antibodies

Goat Anti Mouse IgG (STAR76...)

[RPE](#)

Goat Anti Mouse IgG IgA IgM (STAR87...)

[Alk. Phos.](#), [HRP](#)

Goat Anti Mouse IgG (H/L) (STAR117...)

[Alk. Phos.](#), [DyLight@488](#), [DyLight@549](#),  
[DyLight@649](#), [DyLight@680](#), [DyLight@800](#),  
[FITC](#), [HRP](#)

Rabbit Anti Mouse IgG (STAR9...)

[FITC](#)

Goat Anti Mouse IgG (STAR77...)

[HRP](#)

Rabbit Anti Mouse IgG (STAR12...)

[RPE](#)

Goat Anti Mouse IgG (Fc) (STAR120...)

[FITC](#), [HRP](#)

Rabbit Anti Mouse IgG (STAR8...)

[DyLight@800](#)

Goat Anti Mouse IgG (STAR70...)

[FITC](#)

Rabbit Anti Mouse IgG (STAR13...)

[HRP](#)

Human Anti Mouse IgG1 (HCA036...)

[HRP](#)

### Recommended Negative Controls

[MOUSE IgG1 NEGATIVE CONTROL \(MCA1209\)](#)

**North & South America** Tel: +1 800 265 7376  
Fax: +1 919 878 3751

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