

#12939 Store at -20°C

Glut1 (D3J3A) Rabbit mAb

**Cell Signaling**
TECHNOLOGY®**Orders:** 877-616-CELL (2355)
orders@cellsignal.com**Support:** 877-678-TECH (8324)**Web:** info@cellsignal.com
cellsignal.com

3 Trask Lane | Danvers | Massachusetts | 01923 | USA

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

| Applications: | Reactivity: | Sensitivity: | MW (kDa): | Source/Isotype: | UniProt ID: | Entrez-Gene Id: |
|---------------|-------------|--------------|-----------|-----------------|-------------|-----------------|
| WB, IP | H M R | Endogenous | 45-60 | Rabbit IgG | #P11166 | 6513 |

| | | |
|----------------------------------|--|-----------------------------------|
| Product Usage Information | Application Western Blotting Immunoprecipitation | Dilution 1:1000 1:50 |
| 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. | |
| Specificity / Sensitivity | Glut1 (D3J3A) Rabbit mAb recognizes endogenous levels of total Glut1 protein. This antibody does not cross-react with Glut2, Glut3, or Glut4. | |
| Source / Purification | Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Leu260 of human Glut1 protein. | |
| Background | Glucose transporter 1 (Glut1, SLC2A1) is a widely expressed transport protein that displays a broad range of substrate specificity in transporting a number of different aldose sugars as well as an oxidized form of vitamin C into cells (1,2). Glut1 is responsible for the basal-level uptake of glucose from the blood through facilitated diffusion (2). Research studies show that Glut1 and the transcription factor HIF-1α mediate the regulation of glycolysis by O-GlcNAcylation in cancer cells (3). Additional studies demonstrate that Glut1 is required for CD4 T cell activation and is critical for the expansion and survival of T effector (Teff) cells (4). Mutations in the corresponding <i>SLC2A1</i> gene cause GLUT1 deficiency syndromes (GLUT1DS1, GLUT1DS2), a pair of neurologic disorders characterized by delayed development, seizures, spasticity, paroxysmal exercise-induced dyskinesia, and acquired microcephaly (5,6). Two other neurologic disorders - dystonia-9 (DYT9) and susceptibility to idiopathic generalized epilepsy 12 (EIG12) - are also caused by mutations in the <i>SLC2A1</i> gene (7,8). | |
| Background References | 1. Ferrer, C.M. et al. (2014) <i>Mol Cell</i> 54, 820-31. 2. Deng, D. et al. (2014) <i>Nature</i> 510, 121-5. 3. Agus, D.B. et al. (1997) <i>J Clin Invest</i> 100, 2842-8. 4. Macintyre, A.N. et al. (2014) <i>Cell Metab</i> 20, 61-72. 5. Wang, D. et al. (2005) <i>Ann Neurol</i> 57, 111-8. 6. Schneider, S.A. et al. (2009) <i>Mov Disord</i> 24, 1684-8. 7. Weber, Y.G. et al. (2011) <i>Neurology</i> 77, 959-64. 8. Suls, A. et al. (2009) <i>Ann Neurol</i> 66, 415-9. | |
| 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 | |
| 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 | |
| Trademarks and Patents | Cell Signaling Technology is a trademark of Cell Signaling Technology, Inc. SignalSilence is a registered trademark of Cell Signaling Technology, Inc. XP is a registered trademark of Cell Signaling Technology, Inc. All other trademarks are the property of their respective owners. Visit cellsignal.com/trademarks for more information. | |

Limited Uses

Except as otherwise expressly agreed in a writing signed by a legally authorized representative of CST, the following terms apply to Products provided by CST, its affiliates or its distributors. Any Customer's terms and conditions that are in addition to, or different from, those contained herein, unless separately accepted in writing by a legally authorized representative of CST, are rejected and are of no force or effect.

Products are labeled with For Research Use Only or a similar labeling statement and have not been approved, cleared, or licensed by the FDA or other regulatory foreign or domestic entity, for any purpose. Customer shall not use any Product for any diagnostic or therapeutic purpose, or otherwise in any manner that conflicts with its labeling statement. Products sold or licensed by CST are provided for Customer as the end-user and solely for research and development uses. Any use of Product for diagnostic, prophylactic or therapeutic purposes, or any purchase of Product for resale (alone or as a component) or other commercial purpose, requires a separate license from CST. Customer shall (a) not sell, license, loan, donate or otherwise transfer or make available any Product to any third party, whether alone or in combination with other materials, or use the Products to manufacture any commercial products, (b) not copy, modify, reverse engineer, decompile, disassemble or otherwise attempt to discover the underlying structure or technology of the Products, or use the Products for the purpose of developing any products or services that would compete with CST products or services, (c) not alter or remove from the Products any trademarks, trade names, logos, patent or copyright notices or markings, (d) use the Products solely in accordance with CST Product Terms of Sale and any applicable documentation, and (e) comply with any license, terms of service or similar agreement with respect to any third party products or services used by Customer in connection with the Products.