

ITM2B/Bri2 (E6O3Y) Rabbit mAb

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:
W, IP, IF-IC	H	Endogenous	42, 84	Rabbit IgG	#Q9Y287	9445

Product Usage Information**Application**

Western Blotting
Immunoprecipitation
Immunofluorescence (Immunocytochemistry)

Dilution

1:1000
1:50
1:800 - 1:3200

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

ITM2B/Bri2 (E6O3Y) Rabbit mAb recognizes endogenous levels of total human ITM2B/Bri2 protein. Bands at 84 kDa and 21 kDa are occasionally detected, likely representing oligomers of ITM2B/Bri2 and cleavage products, respectively. This antibody does not cross-react with rodent orthologs of ITM2B/Bri2 protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Ala105 of human ITM2B/Bri2 protein.

Background

Integral membrane protein 2b (ITM2B), also known as Bri2, is a type II membrane protein. ITM2B is expressed as a precursor immature form and is processed by furin proteases to produce the mature ITM2B/Bri2 protein and a soluble C-terminal fragment (1,2). The membrane-bound ITM2B/Bri2 protein can be further processed by ADAM10 and intramembrane proteases (1). Several studies have implicated the *ITM2B* gene with familial forms of dementia and neurodegenerative diseases, including Alzheimer's disease (AD). Mutations in the human *ITM2B* gene are linked to several familial British and Danish dementia disorders (3,4). *ITM2B* gene mutations cause abnormal processing of the ITM2B/Bri2 protein, suggesting that the products of ITM2B/Bri2 protein cleavage might contribute directly to disease etiology (4). Interestingly, cleavage of disease-linked mutant *ITM2B*-encoded proteins generates peptides (ABri and ADan) that are more prone to deposit as amyloid fibrils, a pathological hallmark of many neurodegenerative diseases (2,4). Additionally, ITM2B/Bri2 interacts with Aβ-precursor protein (APP), a gene/protein linked to AD, and may alter APP processing and fibril formation (5-7). ITM2B/Bri2 is one of a family of proteins containing a BRICHOS domain, identified by their ability to inhibit Aβ fibril formation (8). The specific function of ITM2B/Bri2 is unclear, but it may contribute to normal synaptic function via an unknown mechanism (9).

Background References

1. Tsachaki, M. et al. (2011) *Glycobiology* 21, 1382-8.
2. Kim, S.H. et al. (1999) *Nat Neurosci* 2, 984-8.
3. Vidal, R. et al. (1999) *Nature* 399, 776-81.
4. Vidal, R. et al. (2000) *Proc Natl Acad Sci U S A* 97, 4920-5.
5. Fotinopoulou, A. et al. (2005) *J Biol Chem* 280, 30768-72.
6. Matsuda, S. et al. (2005) *J Biol Chem* 280, 28912-6.
7. Matsuda, S. et al. (2008) *J Neurosci* 28, 8668-76.
8. Matsuda, S. et al. (2011) *Neurobiol Aging* 32, 1400-8.
9. Yao, W. et al. (2019) *Sci Rep* 9, 4862.

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

W: Western Blotting **IP:** Immunoprecipitation **IF-IC:** Immunofluorescence (Immunocytochemistry)

Cross-Reactivity Key

H: Human

Trademarks and Patents

Cell Signaling Technology is a 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.