

PADI2 (E3P8Z) 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: W, IP | Reactivity: H | Sensitivity: Endogenous | MW (kDa): 76 | Source/Isotype: Rabbit IgG | UniProt ID: #Q9Y2J8 | Entrez-Gene Id: 11240 |
|-------------------------------|-------------------------|-----------------------------------|------------------------|--------------------------------------|-------------------------------|---------------------------------|

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

PADI2 (E3P8Z) Rabbit mAb recognizes endogenous levels of total PADI2 protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Gly375 of human PADI2 protein.

Background

Peptidyl arginine deiminase (PAD) proteins are a family of Ca²⁺-dependent enzymes that catalyze the post-translational conversion of arginine to citrulline. There are currently five known PAD isozymes in humans, referred to as PADI1-4 and PADI6 (1). Among these isozymes, peptidyl arginine deiminase type 2 (PADI2) is the most widely expressed, being found in skeletal muscle, brain, colon, breast, macrophages, spleen, and spinal cord tissue, among others (1,2). In normal mouse development, PADI2 expression levels are elevated from 18 days to 2 months of age, and gradually decrease from 3 months onward (3). Some of the most well studied PADI2 substrates include vimentin, actin, myelin basic protein (MBP), glial fibrillary acidic protein (GFAP), and histones (4). PADI2-mediated citrullination has been shown to be involved in neurodegeneration and inflammatory response-associated diseases such as multiple sclerosis (MS), Alzheimer's disease (AD), psoriasis, and rheumatoid arthritis (5). Excessive PAD-mediated deimination of MBP is believed to be a major contributor to MS disease progression, while elevated levels of citrullinated GFAP and vimentin proteins have been found in the brains of AD patients (2,4). PADI2 has also been found to play a role in the progression of several types of cancers, including colorectal, breast, and prostate (5-7).

Background References

1. Jones, J.E. et al. (2009) *Curr Opin Drug Discov Devel* 12, 616-27.
2. Alghamdi, M. et al. (2019) *J Immunol Res* 2019, 7592851.
3. Jang, B. (2013) et al. *Prion* 7, 42-6.
4. Witalison, E.E. et al. (2015) *Curr Drug Targets* 16, 700-10.
5. Wang, L. et al. (2017) *Cancer Res* 77, 5755-68.
6. Cantariño, N. et al. (2016) *Mol Cancer Res* 14, 841-8.
7. Wang, H. et al. (2016) *Cancer Cell Int* 16, 61.

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 nonfat dry milk, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting **IP:** Immunoprecipitation

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.