

Store at
-20C
#43811

Pyroptosis Antibody Sampler Kit



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

1 Kit (9 x 20 microliters)

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

| Product Includes | Product # | Quantity | Mol. Wt | Isotype/Source |
|---|-----------|----------|--------------------|----------------|
| Gasdermin D (E8G3F) Rabbit mAb | 97558 | 20 µl | 53, 43, 30, 21 kDa | Rabbit IgG |
| Cleaved Gasdermin D (Asp275) (E7H9G) Rabbit mAb | 36425 | 20 µl | 30 kDa | Rabbit IgG |
| Caspase-1 (D7F10) Rabbit mAb | 3866 | 20 µl | 48, 20 kDa | Rabbit IgG |
| Cleaved Caspase-1 (Asp297) (D57A2) Rabbit mAb | 4199 | 20 µl | 20, 22 kDa | Rabbit IgG |
| IL-1β (D3U3E) Rabbit mAb | 12703 | 20 µl | 17, 31 kDa | Rabbit IgG |
| Cleaved-IL-1β (Asp116) (D3A3Z) Rabbit mAb | 83186 | 20 µl | 17 kDa | Rabbit IgG |
| Caspase-4 Antibody | 4450 | 20 µl | 45 kDa | Rabbit |
| Caspase-5 (D3G4W) Rabbit mAb | 46680 | 20 µl | 50, 44, 35 kDa | Rabbit IgG |
| HMGB1 (D3E5) Rabbit mAb | 6893 | 20 µl | 29 kDa | Rabbit IgG |
| Anti-rabbit IgG, HRP-linked Antibody | 7074 | 100 µl | | Goat |

Please visit cellsignal.com for individual component applications, species cross-reactivity, dilutions, protocols, and additional product information.

Description

The Pyroptosis Antibody Sampler Kit provides an economical means of detecting proteins that are used as readouts for pyroptosis. The kit includes enough antibodies to perform two western blot experiments with each primary antibody.

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.*

Background

Pyroptosis is a regulated pathway of cell death with morphological features of necrosis, including cell swelling, plasma membrane pore formation, and engagement of an inflammatory response with the release of a number of damage-associated molecular patterns (DAMPs), such as HMGB1 and inflammatory cytokines like IL-1β and IL-18 (1,2). Pyroptosis is generally induced in cells of the innate immune system, such as monocytes, macrophages, and dendritic cells in the presence of pathogen-associated molecular patterns (PAMPs) expressed on microbial pathogens or by cell-derived DAMPs. It is induced through assembly of inflammasomes triggering proteolytic activation of caspase-1 which then cleaves inflammatory cytokines like IL-1β and IL-18 to their mature forms (3). A critical feature of pyroptosis is the cleavage of Gasdermin D by caspase-1 and mouse caspase-11 (or human caspase-4/5) (4-6). Upon cleavage, the N-terminal fragment of Gasdermin D oligomerizes to form a pore, allowing secretion of inflammatory DAMPs and cytokines. Canonical inflammasome assembly typically consists of a cytosolic-pattern recognition receptor (PPR; a nucleotide binding domain and leucine-rich repeat [NLR] or AIM2-like family members), an adaptor protein (ASC/TMS1), and pro-caspase-1. Distinct inflammasome complexes can recognize distinct PAMPs and DAMPs to trigger pyroptosis. The best characterized pathway triggered by the NLR, NLRP3, occurs through a two-step process. The first step is a priming signal, NF-κB is activated to induce the expression of a number of inflammasome components including NLRP3, pro-IL-1β, and pro-IL-18. In the second activation step, caspase-1 is activated and Gasdermin D and cytokines are proteolytically activated. In a non-canonical pathway, caspase-4 and caspase-5 can directly trigger Gasdermin D cleavage in monocytes following LPS stimulation (5,7).

Background References

1. Frank, D. and Vince, J.E. (2019) *Cell Death Differ* 26, 99-114.
2. Shi, J. et al. (2017) *Trends Biochem Sci* 42, 245-54.
3. Malik, A. and Kanneganti, T.D. (2017) *J Cell Sci* 130, 3955-63.
4. He, W.T. et al. (2015) *Cell Res* 25, 1285-98.
5. Shi, J. et al. (2015) *Nature* 526, 660-5.
6. Kayagaki, N. et al. (2015) *Nature* 526, 666-71.
7. Viganò, E. et al. (2015) *Nat Commun* 6, 8761.

Trademarks and Patents

Cell Signaling Technology is a 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.