

PRODUCT INFORMATION



PAF Acetylhydrolase 2 (human, recombinant)

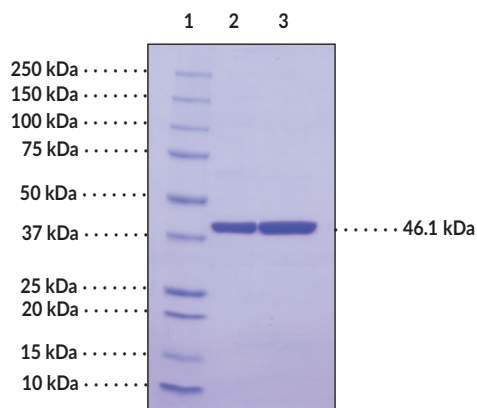
Item No. 24292

Overview and Properties

Synonyms:	PAF-AH2, HSD-PLA2, Platelet-Activating Factor Acetylhydrolase 2, Cytoplasmic, Serine-Dependent Phospholipase A ₂
Source:	Active recombinant N-terminal histidine-tagged protein expressed in <i>E. coli</i>
Amino Acids:	2-392
Uniprot No.:	Q99487
Molecular Weight:	46.1 kDa
Storage:	-80°C (as supplied)
Stability:	≥1 year
Purity:	<i>batch specific</i> (≥80% estimated by SDS-PAGE)
Supplied in:	50 mM HEPES, pH 8.0, with 300 mM sodium chloride and 20% glycerol
Protein Concentration:	<i>batch specific</i> mg/ml
Activity:	<i>batch specific</i> U/ml
Specific Activity:	<i>batch specific</i> U/mg
Unit Definition:	One unit is defined as the amount required to produce 1 nmol of TNB per minute at 37°C in 50 mM HEPES, pH 7.4, containing 150 mM sodium chloride, 5 mM CHAPS, 1 mM EDTA, 5% glycerol, and 300 μM 2-thio PAF (Item No. 60945).

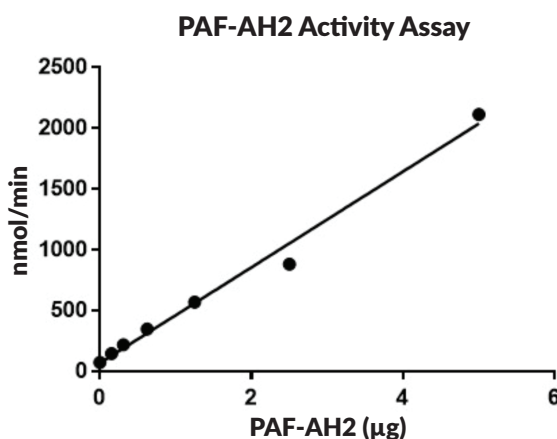
Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Images



Lane 1: MW Markers
Lane 2: PAF-AH2 (2 μg)
Lane 3: PAF-AH2 (4 μg)

Representative gel image shown; actual purity may vary between each batch.



WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 02/07/2023

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM

PRODUCT INFORMATION



Description

PAF acetylhydrolase 2 (PAF-AH2) is a serine-dependent, intracellular-type platelet-activating factor (PAF) acetylhydrolase that is expressed in a variety of tissue and cell types but is most abundant in the liver, kidney, testis, and intestines.¹⁻⁴ It contains an N-terminal myristoylation site and can translocate from the cytosol to cellular membranes in response to various stressors including UVB radiation, LPS, or oxidative stress, during which PAF-AH2 localizes to the endoplasmic reticulum and Golgi apparatus.^{2,5} PAF-AH2 hydrolyzes and inactivates PAF, a phospholipid mediator involved in a variety of biological activities, including inflammation, smooth muscle contraction, and fetal development.^{2,3,6} It also hydrolyzes phospholipids with short-chain or oxidized fatty acids at the *sn*-2 position.^{1,2} PAF-AH2 has demonstrated protective activities in various *in vitro* and *in vivo* models of oxidative stress.^{2,4,5} Overexpression of PAF-AH2 reduces cytotoxicity and apoptosis induced by *tert*-butylhydroperoxide (*t*-BuOOH) in CHO-K1 cells.⁵ Conversely, PAF-AH2-deficient (*Pafah2*^{-/-}) mouse embryonic fibroblasts (MEFs) are more susceptible to *t*-BuOOH-induced cell death than wild-type MEFs.⁴ In addition, *Pafah2*^{-/-} mice exhibit increased hepatic necrosis compared to wild-type animals in a mouse model of carbon tetrachloride-induced hepatic injury.

References

1. Rice, S.Q., Southan, C., Boyd, H.F., *et al.* Expression, purification and characterization of a human serine-dependent phospholipase A2 with high specificity for oxidized phospholipids and platelet activating factor. *Biochem. J.* **330(Pt 3)**, 1309-1315 (1998).
2. Kono, N. and Arai, H. Intracellular platelet-activating factor acetylhydrolase, type II: A unique cellular phospholipase A2 that hydrolyzes oxidatively modified phospholipids. *Enzymes* **38**, 43-54 (2015).
3. McIntyre, T.M., Prescott, S.M., and Stafforini, D.M. The emerging roles of PAF acetylhydrolase. *J. Lipid Res.* **50(Suppl)**, S255-S259 (2009).
4. Kono, N., Inoue, T., Yoshida, Y., *et al.* Protection against oxidative stress-induced hepatic injury by intracellular type II platelet-activating factor acetylhydrolase by metabolism of oxidized phospholipids *in vivo*. *J. Biol. Chem.* **283(3)**, 1628-1636 (2008).
5. Matsuzawa, A., Hattori, K., Aoki, J., *et al.* Protection against oxidative stress-induced cell death by intracellular platelet-activating factor-acetylhydrolase II. *J. Biol. Chem.* **272(51)**, 32315-32320 (1997).
6. Hattori, K., Adachi, H., Matsuzawa, A., *et al.* cDNA cloning and expression of intracellular platelet-activating factor (PAF) acetylhydrolase II. Its homology with plasma PAF acetylhydrolase. *J. Biol. Chem.* **271(51)**, 33032-33038 (1996).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM