For Research Use Only

Ferroptosis Expanded Antibody Kit

Catalog Number: PK30003

proteintech®

www.ptglab.com

Product Information

The Ferroptosis Expanded Antibody Kit provides a cost-effective tool for studying key proteins involved in the ferroptosis pathway. Perfect for researchers starting a new project, screening multiple prospective targets or those who simply require less volume.

Kit Components

The Ferroptosis Expanded Antibody Kit contains antibodies against 10 key protein targets playing critical roles in the ferroptotic cell death pathway.

Antigen	Catalog No.	Host, clonality	Tested Reactivity	Applications	Volume
GPX4	67763-1-Ig	Mouse monoclonal	H, M, R, Rb, Pg, Dg, Hm, C, Z	WB, IHC, IF, ELISA	20 uL
FSP1	20886-1-AP	Rabbit polyclonal	H, M, R	WB, IP, IHC, ELISA	20 uL
SLC7A11/xCT	26864-1-AP	Rabbit polyclonal	H	WB, IP, IHC, ELISA	20 uL
CD98/SLC3A2	15193-1-AP	Rabbit polyclonal	H, M, R	WB, IHC, IF, ELISA	20 uL
DMT1/SLC11A2	20507-1-AP	Rabbit polyclonal	H, M, R	WB, IHC, IF, ELISA	20 uL
KEAP1	80744-1-RR	Rabbit monoclonal	H, M, R	WB, IHC, IF, ELISA	20 uL
NRF2	80593-1-RR	Rabbit monoclonal	H, M	WB, IHC, IF/ICC, FC (Intra), IP, ELISA	20 uL
HO-1	10701-1-AP	Rabbit polyclonal	H, M, R	WB, IP, IF, IHC, ELISA, FC (Intra)	20 uL
ACSL4	22401-1-AP	Rabbit polyclonal	H, M, R	WB, IP, IHC, IF, ELISA	20 uL
DHODH	14877-1-AP	Rabbit polyclonal	H, M, R	WB, IP, IHC, IF, ELISA	20 uL

Also see our 'Ferroptosis Essentials Antibody Kit' on the following page
https://www.ptglab.com/products/Ferroptosis-Essentials-Antibody-Kit-PK30002.htm

Package

10× 20 uL

Storage

Store at -20°C. Stable for one year from the date of receipt.

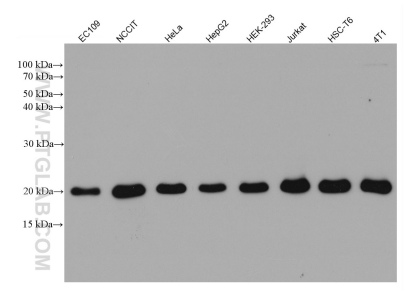
Background Information

Ferroptosis is an iron-dependent form of regulated cell death characterized by an increase in intracellular reactive oxygen species (ROS) levels. The peroxidase GPX4, whose activity relies on glutathione (GSH) biosynthesis, is a key regulator of the ferroptosis pathway. GPX4 utilizes GSH as a cofactor to reduce intracellular lipid peroxides. Inactivation of GPX4 caused by intracellular GSH depletion leads to ROS accumulation, thereby triggering ferroptosis. Ferroptosis can also be regulated by the cell surface cysteine-glutamate antiporter (system xc-) consisting of SLC7A11 and SLC3A2 in conjunction with the glutathione metabolic pathway. Inhibition of system xc- prevents glutathione synthesis by inhibiting cysteine absorption, leading to oxidative stress and impairment of GPX4 activity, which in turn promotes ferroptosis. Recently, several GPX4-independent pathways including the FSP1-CoQ10 pathway have been shown to be involved in the regulation of ferroptosis.
DMT1 regulates ferroptosis by playing a key role in the modulation of iron homeostasis. The KEAP1-NRF2 pathway has been demonstrated to play a protective role against ferroptosis in multiple disease models. Induction of ferroptosis by the NRF2 target gene, HO-1 can have either detrimental or protective roles depending on levels of cellular iron and ROS. ACSL4, an enzyme mediating fatty acid metabolism acts as a key driver and biomarker of ferroptosis under specific conditions. Recent studies have highlighted the role of DHODH inhibition in tumor suppression by the induction of ferroptosis, thereby making it a potential therapeutic target for treating cancer.

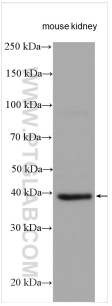
Standard Protocols

Click here to view our standard protocols for various applications including WB, IP, IHC, IF, FC, and ELISA.

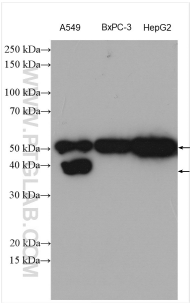
Validation Data



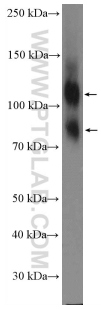
Various lysates were subjected to SDS PAGE followed by western blot with 67763-1-Ig (GPX4 antibody) at dilution of 1:5000 incubated at room temperature for 1.5 hours.



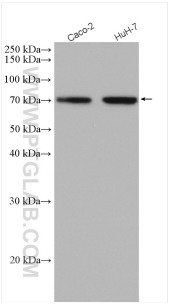
mouse kidney tissue were subjected to SDS PAGE followed by western blot with 20886-1-AP (FSP1 antibody) at dilution of 1:1500 incubated at room temperature for 1.5 hours.



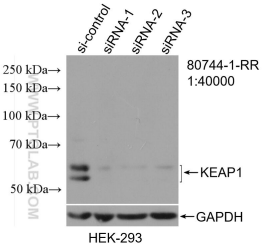
Various lysates were subjected to SDS PAGE followed by western blot with 26864-1-AP (SLC7A11/xCT antibody) at dilution of 1:1000 incubated at room temperature for 1.5 hours.



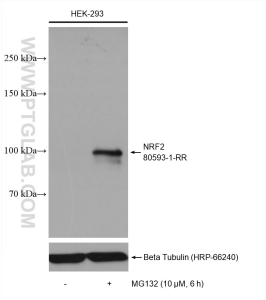
HeLa cells were subjected to SDS PAGE followed by western blot with 15193-1-AP (CD98 antibody at dilution of 1:20000 incubated at room temperature for 1.5 hours.



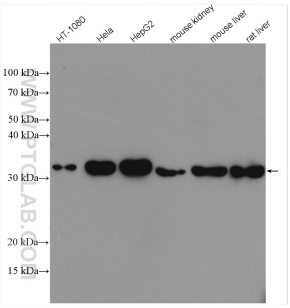
Various cell lysates were subjected to SDS PAGE followed by western blot with 20507-1-AP (DMT1 antibody) at dilution of 1:800 incubated at room temperature for 1.5 hours.



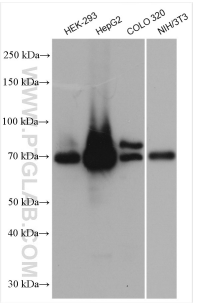
WB result of KEAP1 antibody (80744-1-RR; 1:40000; incubated at room temperature for 1.5 hours) with sh-Control and sh-KEAP1 transfected HEK-293 cells.



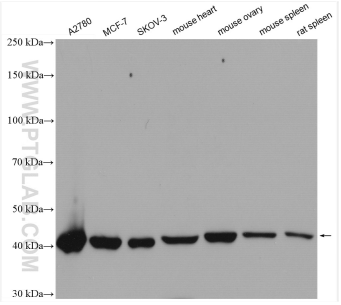
Non-treated and MG 132 treated HEK-293 cells were subjected to SDS PAGE followed by western blot with 80593-1-RR (NRF2, NFE2L2 antibody) at dilution of 1:2500 incubated at room temperature for 1.5 hours.



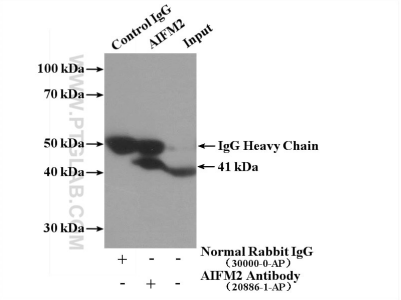
Various lysates were subjected to SDS PAGE followed by western blot with 10701-1-AP (HO-1 antibody) at dilution of 1:3000 incubated at room temperature for 1.5 hours.



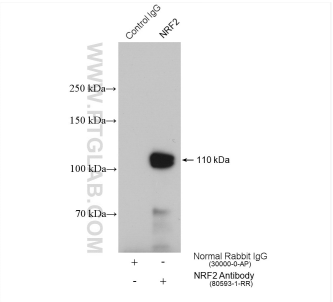
Various lysates were subjected to SDS PAGE followed by western blot with 22401-1-AP (ACSL4 antibody) at dilution of 1:6000 incubated at room temperature for 1.5 hours.



Various lysates were subjected to SDS PAGE followed by western blot with 14877-1-AP (DHODH antibody) at dilution of 1:8000 incubated at room temperature for 1.5 hours.



IP Result of anti-FSP1 (IP:20886-1-AP, 4ug; Detection:20886-1-AP 1:300) with L02 cells lysate 1800ug.



IP result of anti-NRF2, NFE2L2(IP:80593-1-RR, 4ug; Detection:80593-1-RR 1:800) with HeLa cells lysate 2520 ug.

For technical support and original validation data for this product please contact

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