BOSTER
antibody and ELISA experts

BOSTER BIOLOGICAL TECHNOLOGY
3942 B Valley Ave, Pleasanton, CA 94566
888-466-3604 | support@bosterbio.com | www.bosterbio.com

Anti-NFE2L2 Antibody Picoband®

Catalog Number: A00078-1

About NFE2L2

NFE2L2 (nuclear factor (erythroid-derived 2)-like 2) also known as NRF2 or NFE2-RELATED TRANSCRIPTION FACTOR 2, is a transcription factor that in humans is encoded by the NFE2L2 gene. NFE2, NFE2L1, and NFE2L2 comprise a family of human genes encoding basic leucine zipper (bZIP) transcription factors. NFE2L2 induces the expression of various genes including those that encode for several antioxidant enzymes, and it may play a physiological role in the regulation of oxidative stress. The NFE2L2 gene is located on 2q31.2. The identification of somatic mutations that disrupt the NRF2-KEAP1 interaction to stabilize NRF2 and increase the constitutive transcription of NRF2 target genes indicated that enhanced reactive oxygen species (ROS) detoxification and additional NRF2 functions may in fact be tumorigenic. Oncogene-directed increased expression of Nrf2 is a mechanism for the activation of the Nrf2 antioxidant program evident in primary cells and tissues of mice expressing KRas (G12D) and BRaf (V619E), and in human pancreatic cancer.

Overview

Product Name	Anti-NFE2L2 Antibody Picoband®
Reactive Species	Human
Description	Boster Bio Anti-NFE2L2 Antibody Picoband® catalog # A00078-1. Tested in ELISA, Flow Cytometry, IF, IHC, ICC, WB applications. This antibody reacts with Human. The brand Picoband indicates this is a premium antibody that guarantees superior quality, high affinity, and strong signals with minimal background in Western blot applications. Only our best-performing antibodies are designated as Picoband, ensuring unmatched performance.
Application	ELISA, Flow Cytometry, IF, IHC, ICC, WB
Clonality	Polyclonal
Formulation	Each vial contains 4mg Trehalose, 0.9mg NaCl, 0.2mg Na2HPO4, 0.01mg NaN3.
Storage Instructions	Store at -20˚C for one year from date of receipt. After reconstitution, at 4˚C for one month. It can also be aliquotted and stored frozen at -20˚C for six months. Avoid repeated freeze-thaw cycles.
Host	Rabbit
Uniprot ID	Q16236

Technical Details

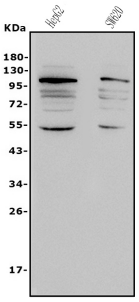
Immunogen	E.coli-derived human NFE2L2 recombinant protein (Position: R34-N605).
Recommended Detection Systems	Boster recommends Enhanced Chemiluminescent Kit with anti-Rabbit IgG (EK1002) for Western blot, and HRP Conjugated anti-Rabbit IgG Super Vision Assay Kit (SV0002-1) for IHC(P) and ICC.
Cross Reactivity	No cross-reactivity with other proteins
Isotype	Rabbit IgG

BOSTER BIOLOGICAL TECHNOLOGY
3942 B Valley Ave, Pleasanton, CA 94566
888-466-3604 | support@bosterbio.com | www.bosterbio.com

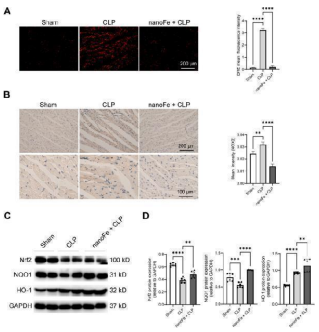
Form	Lyophilized
Concentration	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml.
Purification	Immunogen affinity purified.
Suggested Dilutions	Western blot, 0.25-0.5ug/ml, Human Immunohistochemistry (Paraffin-embedded Section), 2-5ug/ml, Human Immunocytochemistry/Immunofluorescence, 5ug/ml, Human Flow Cytometry (Fixed), 1-3ug/1x10^6 cells, Human ELISA, 0.1-0.5ug/ml, -

BOSTER BIOLOGICAL TECHNOLOGY
3942 B Valley Ave, Pleasanton, CA 94566
888-466-3604 | support@bosterbio.com | www.bosterbio.com

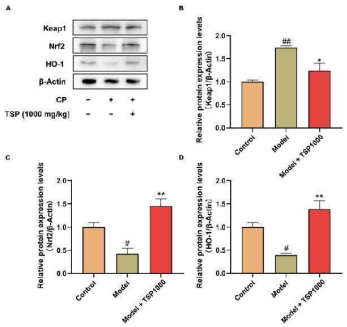
Anti-NFE2L2 Antibody Picoband® (A00078-1) Images



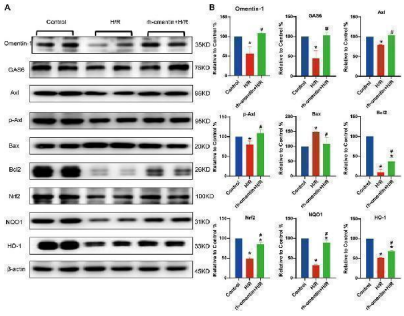
Western blot analysis of NFE2L2 using anti-NFE2L2 antibody (A00078-1). Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 30ug of sample under reducing conditions. Lane 1: human HepG2 whole cell lysates, Lane 2: human SW620 whole cell lysates. After Electrophoresis, proteins were transferred to a Nitrocellulose membrane at 150mA for 50-90 minutes. Blocked the membrane with 5% Non-fat Milk/ TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-NFE2L2 antigen affinity purified polyclonal antibody (Catalog # A00078-1) at 0.5 ug/mL overnight at 4°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1002) with Tanon 5200 system. A specific band was detected for NFE2L2 at approximately 100KD. The expected band size for NFE2L2 is at 100KD.



Protective effects of nanoFe treatment on myocardial oxidative stress in septic mice. A Representative photographs of in DHE of mouse heart tissues. B Representative photographs of IHC staining of NOX2. C Representative Western blot images of Nrf2, NQO1, and HO-1. D Quantitative analysis of C was determined with GAPDH for normalization. Statistical analysis of the data was used ANOVA Index in PubMed under a CC BY license. PMID: 36064371

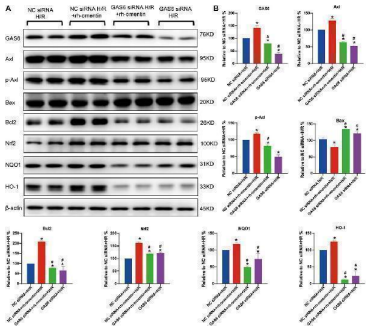


The effects of TSP on the Nrf2/HO-1 signaling pathway. (A) The representative images of western blotting results. (B–D) Quantification of the protein expression of Keap1, Nrf2, and HO-1. All data were expressed as mean ± SEM (n = 3). # P < 0.05, ## P < 0.01 vs. Control group; * P < 0.05, ** P < 0.01 vs. Model group.Index in PubMed under a CC BY license. PMID: 35719151

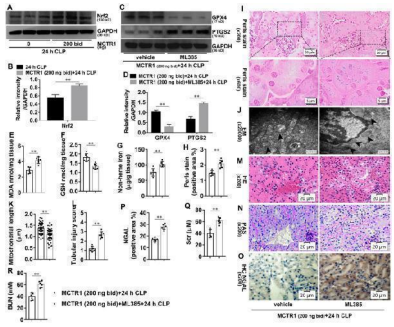


Effect of rh-omentin treatment on oxidative stress molecules, apoptotic molecules, and GAS6/Axl signaling molecules in N2a cells injured by H/R. (A) The representative images of Omentin-1, GAS6, Axl, p-Axl, NQO1, HO-1, Nrf2, Bax, and Bcl2 detected by Western blot. (B) Quantitative analysis of Western blot by normalizing to beta-actin. Error bars show the standard deviation for n = 6 measurements from representative experiments. * p < 0.05 vs. the Control group; # p < 0.05 vs. the H/R group.Index in PubMed under a CC BY license. PMID: 35141232

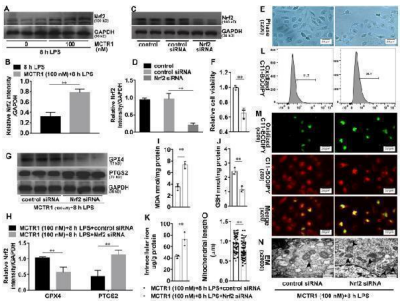
BOSTER BIOLOGICAL TECHNOLOGY
3942 B Valley Ave, Pleasanton, CA 94566
888-466-3604 | support@bosterbio.com | www.bosterbio.com



Effect of GAS6 siRNA and rh-omentin on GAS6/Axl signaling in N2a cells injured by H/R. (A) The representative images of GAS6, Axl, p-Axl, NQO1, HO-1, Nrf2, Bax, and Bcl2 detected by Western blot. (B) Quantitative analysis of Western blot by normalizing to beta-actin. Error bars show the standard deviation for n = 6 measurements from representative experiments. * p < 0.05 vs . the Control siRNA + H/R; # p < 0.05 vs. the NC siRNA + rh-omentin + H/R group.Index in PubMed under a CC BY license. PMID: 35141232

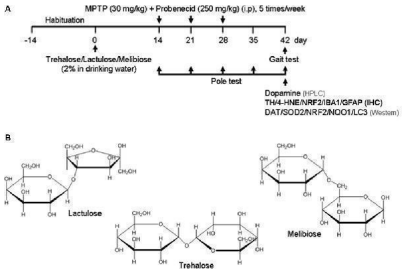


Effects of Nrf2 on MCTR1-regulated ferroptosis in CLP-induced AKI. Mice were given ML385 (30 mg/kg, ip, qd) for 7 d. On day 7, ML385 injection with or without a twice-daily administration mode of MCTR1 as described before in the following experiment. All kidney samples were collected at 24 h after CLP. A–D Shown are representative western blotting and quantification of Nrf2, GPX4, and PTGS2. E – G Quantitative analyses of MDA, GSH, and non-heme iron. H Quantitative analyses of Perl's stain. I Representative Perl's stain images. J Representative TEM images. The black arrow indicates ferroptosis-like mitochondria. K Quantitative analyses of mitochondrial length. L Histological analyses of renal tubular injury. M , N Representative HE stains and PAS stain. O Representative IHC images for NGAL. P Quantitative analyses of IHC stain of NGAL. Q , R Quantitative analyses of serum Scr and BUN. n = 6 mice/group, mean ± SD were presented. **P < 0.01 Index in PubMed under a CC BY license. PMID: 34961563

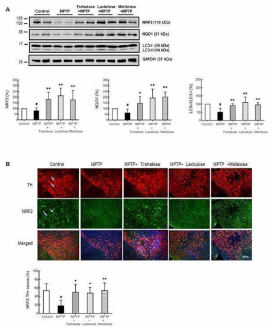


Nrf2 is involved in the inhibitory effects of MCTR1 on LPS-induced ferroptosis. A , B HK-2 cells were treated with MCTR1 (100 nM) and LPS (1 ug/ml) for 8 h. Shown are representative western blotting and quantification of Nrf2. HK-2 cells were transfected with 30 nM Nrf2 siRNA for 48 h and then treated with MCTR1 (100 nM) and LPS (1 ug/ml) for 8 h. C , D Representative western blotting and quantification of Nrf2. E Visualization of cell viability were evaluated by phase-contrast microscopy. F Fold change of cell viability. G , H Representative western blotting and quantification of GPX4 and PTGS2. I – K Quantitative analyses of MDA, GSH, and non-heme iron. L Quantitative analyses of oxidized C11-BODIPY 581/591 probe by flow cytometry. M Representative images of C11-BODIPY 581/591 fluorescent ratio-probe. N Representative TEM images. The black arrow indicates ferroptosis-like mitochondria. O Quantitative analyses of mitochondrial length. n = 3, mean ± SD were presented. **P < 0.01 Index in PubMed under a CC BY license. PMID: 34961563

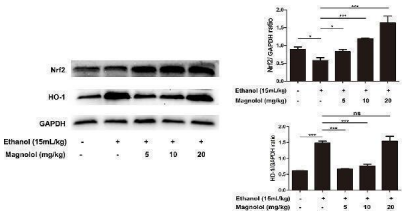
Sub-chronic 1-methyl-4-phenyl-1,2,3,6-tetrahydropyridine (MPTP) model. (A) Experimental procotol. Parkinsonism was established by MPTP injections in C57BL/6 mice on the 14th day (15 dose regimen administered over 3 weeks) of 42-day duration of experiment. Mice received tested disaccharides



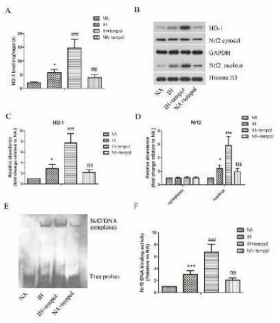
from day 0 for 42 days. Saline-injected mice served as the control group. Pole test was performed on days 14, 21, 28, 35 and 42, and gait test was performed on day 42. Subsequently, mice were sacrificed for dopamine (by HPLC), tyrosine hydroxylase (TH), 4-hydroxynonenal (4-HNE), nuclear factor erythroid 2-related factor 2 (NRF2), ionized calcium-binding adapter molecule 1 (IBA1) and glial fibrillary acidic protein (GFAP; by IHC), and dopamine transporter (DAT), superoxide dismutase 2 (SOD2), NRF2, NQO1 and light chain 3 (LC3; by Western) analyses. (B) Structure of trehalose, lactulose and melibiose (formula C 12 H 22 O 11 , molar mass 342.30).Index in PubMed under a CC BY license. PMID: 32848705



Trehalose and both analogs enhanced autophagy and decreased oxidative stress on dopaminergic neurons. (A) Western blotting to examine the altered protein levels of NRF2, NQO1 and LC3-II/I in ventral midbrain (n = 8, divided into four batches). (B) Immunohistochemistry of TH (red) and NRF2 (green) positive neurons in ventral midbrain with MPTP/trehalose/lactulose/melibiose treatment. Nuclei were counter stained with DAPI (blue). Percentages of dopaminergic neurons with anti-oxidative damage, identified by TH and NRF2 co-localization, were shown below (n = 8). P -values, ANOVA with LSD post hoc test, MPTP vs. control (# P < 0.05) and disaccharide-treated vs. untreated (* P < 0.05 and ** P < 0.01).Index in PubMed under a CC BY license. PMID: 32848705



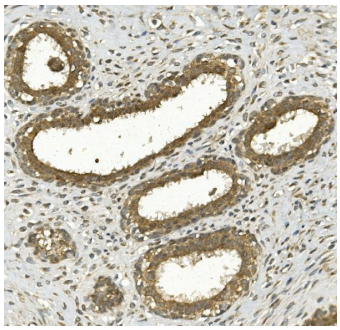
Effects of magnolol on mice alcohol-induced liver damage in the Nrf2/HO-1 signaling pathway. After the completion of modeling and samples were collected, the liver of mice was lysed to detect the proteins by western blotting analysis. The levels of Nrf2 and HO-1 were compared with GAPDH. The data were demonstrated as means ± SD. (*P < 0.05, ***P < 0.001 and "ns" means not significant).Index in PubMed under a CC BY license. PMID: 31920652



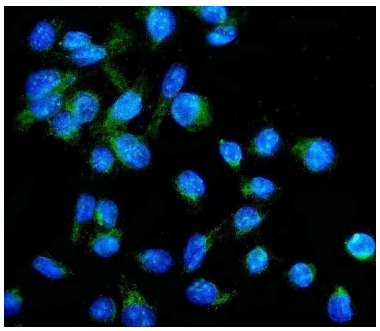
Tempol further promoted intermittent hypoxia-induced activation of the Nrf2/HO-1 signaling pathway. (A) The level of HO-1 in lung tissues was detected by a commercial kit. (B) The protein levels of HO-1, cytoplasmic Nrf2, and nuclear Nrf2 in lung tissues were measured by Western blot assay. GAPDH was used as a loading control. (C)& (D) The gray-scale value of the bands was quantitatively analyzed. (E) DNA binding activity of Nrf2 in lung tissues was determined by EMSA. (F) Quantitative analysis of Nrf2 DNA binding activity. The experimental data were expressed as mean±SD (n=6). * P< 0.05, *** P< 0.001, versus the NA group. ### P< 0.001, versus the IH group. ns, no significance, versus the NA groupIndex in PubMed under a CC BY license. PMID: 30627367

IHC analysis of NFE2L2 using anti-NFE2L2 antibody (A00078-1). NFE2L2 was detected in paraffin-embedded section of human mammary cancer tissue. Heat mediated

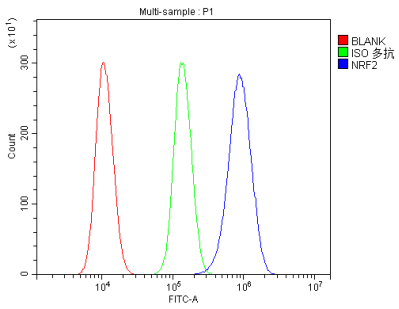
BOSTER BIOLOGICAL TECHNOLOGY
3942 B Valley Ave, Pleasanton, CA 94566
888-466-3604 | support@bosterbio.com | www.bosterbio.com



antigen retrieval was performed in EDTA buffer (pH8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2ug/ml rabbit anti-NFE2L2 Antibody (A00078-1) overnight at 4°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC) (Catalog # SA1022) with DAB as the chromogen.



IF analysis of NFE2L2 using anti-NFE2L2 antibody (A00078-1). NFE2L2 was detected in immunocytochemical section of U20S cells. Enzyme antigen retrieval was performed using IHC enzyme antigen retrieval reagent (AR0022) for 15 mins. The cells were blocked with 10% goat serum. And then incubated with 5ug/mL rabbit anti-NFE2L2 Antibody (A00078-1) overnight at 4°C. DyLight®488 Conjugated Goat Anti-Rabbit IgG (BA1127) was used as secondary antibody at 1:100 dilution and incubated for 30 minutes at 37°C. The section was counterstained with DAPI. Visualize using a fluorescence microscope and filter sets appropriate for the label used.



Flow Cytometry analysis of 293T cells using anti-NFE2L2 antibody (A00078-1). Overlay histogram showing 293T cells stained with A00078-1 (Blue line).To facilitate intracellular staining, cells were fixed with 4% paraformaldehyde and permeabilized with permeabilization buffer. The cells were blocked with 10% normal goat serum. And then incubated with rabbit anti-NFE2L2 Antibody (A00078-1, 1ug/1x106 cells) for 30 min at 20°C. DyLight®488 conjugated goat anti-rabbit IgG (BA1127, 5-10ug/1x106 cells) was used as secondary antibody for 30 minutes at 20°C. Isotype control antibody (Green line) was rabbit IgG (1ug/1x106) used under the same conditions. Unlabelled sample without incubation with primary antibody and secondary antibody (Red line) was used as a blank control.

9 Publications Citing This Product

1. PubMed ID: 10.3390/molecules23071788, Protection of Anthocyanin from Myrica rubra against Cerebral Ischemia-Reperfusion Injury via Modulation of the TLR4/NF-kappaB and NLRP3 Pathways

2. PubMed ID: 10.3389/fnagi.2020.00226, Lactulose and Melibiose Attenuate MPTP-Induced Parkinson's Disease in Mice by Inhibition of Oxidative Stress, Reduction of Neuroinflammation and Up-Regulation of Autophagy

3. PubMed ID: 10.1186/s13578-021-00734-x, Maresin conjugates in tissue regeneration-1 suppresses ferroptosis in septic acute kidney injury

Visit bosterbio.com/anti-nfe2l2-picoband-trade-antibody-a00078-1-boster.html to see all 9 publications.

Submit a product review to Biocompare.com

BOSTER BIOLOGICAL TECHNOLOGY
3942 B Valley Ave, Pleasanton, CA 94566
888-466-3604 | support@bosterbio.com | www.bosterbio.com

Anti-NFE2L2 Antibody

For Research Use Only. Not for use in diagnostic procedures.