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Anti-Nrf2 Picoband Antibody

Catalog # ABO11981

Specification

Anti-Nrf2 Picoband Antibody - Product Information

Application	**WB, IHC**
Primary Accession	Q16236
Host	**Rabbit**
Reactivity	**Human, Mouse, Rat**
Clonality	**Polyclonal**
Format	**Lyophilized**

Description
Rabbit IgG polyclonal antibody for Nuclear factor erythroid 2-related factor 2(NFE2L2) detection. Tested with WB, IHC-P in Human;Mouse;Rat.

Reconstitution
Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Anti-Nrf2 Picoband Antibody - Additional Information

Gene ID 4780

Other Names
Nuclear factor erythroid 2-related factor 2, NF-E2-related factor 2, NFE2-related factor 2, HEBP1, Nuclear factor, erythroid derived 2, like 2, NFE2L2, NRF2

Calculated MW
67827 MW KDa

Application Details
Immunohistochemistry(Paraffin-embedded Section), 0.5-1 µg/ml, Human, By Heat
Western blot, 0.1-0.5 µg/ml, Human, Mouse, Rat

Subcellular Localization
Cytoplasm, cytosol. Nucleus. Cytosolic under unstressed conditions, translocates into the nucleus upon induction by electrophilic agents.

Tissue Specificity
Widely expressed. Highest expression in adult muscle, kidney, lung, liver and in fetal muscle.

Protein Name
Nuclear factor erythroid 2-related factor 2

Contents
Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg NaN3.

Immunogen
E.coli-derived human Nrf2 recombinant protein (Position: Q14-D178). Human Nrf2 shares 79% and 82% amino acid (aa) sequence identity with mouse and rat Nrf2, respectively.

Purification
Immunogen affinity purified.

Cross Reactivity
No cross reactivity with other proteins

Storage

At -20˚C for one year. After r˚Constitution, at 4˚C for one month. It˚Can also be aliquotted and stored frozen at -20˚C for a longer time.Avoid repeated freezing and thawing.

Sequence Similarities
Belongs to the bZIP family. CNC subfamily.

Anti-Nrf2 Picoband Antibody - Protein Information

Name NFE2L2 {ECO:0000303|PubMed:29018201, ECO:0000312|HGNC:HGNC:7782}

Function
Transcription factor that plays a key role in the response to oxidative stress: binds to antioxidant response (ARE) elements present in the promoter region of many cytoprotective genes, such as phase 2 detoxifying enzymes, and promotes their expression, thereby neutralizing reactive electrophiles (PubMed:11035812, PubMed:19489739, PubMed:29018201, PubMed:31398338). In normal conditions, ubiquitinated and degraded in the cytoplasm by the BCR(KEAP1) complex (PubMed:11035812, PubMed:15601839, PubMed:29018201). In response to oxidative stress, electrophile metabolites inhibit activity of the BCR(KEAP1) complex, promoting nuclear accumulation of NFE2L2/NRF2, heterodimerization with one of the small Maf proteins and binding to ARE elements of cytoprotective target genes (PubMed:19489739, PubMed:29590092). The NFE2L2/NRF2 pathway is also activated in response to selective autophagy: autophagy promotes interaction between KEAP1 and SQSTM1/p62 and subsequent inactivation of the BCR(KEAP1) complex, leading to NFE2L2/NRF2 nuclear accumulation and expression of cytoprotective genes (PubMed:20452972). May also be involved in the transcriptional activation of genes of the beta-globin cluster by mediating enhancer activity of hypersensitive site 2 of the beta-globin locus control region (PubMed:7937919). Also plays an important role in the regulation of the innate immune response and antiviral cytosolic DNA sensing. It is a critical regulator of the innate immune response and survival during sepsis by maintaining redox homeostasis and restraint of the dysregulation of pro-inflammatory signaling pathways like MyD88-dependent and -independent and TNF-alpha signaling (By similarity). Suppresses macrophage inflammatory response by blocking pro-inflammatory cytokine transcription and the induction of IL6 (By similarity). Binds to the proximity of pro-inflammatory genes in macrophages and inhibits RNA Pol II recruitment. The inhibition is independent of the NRF2-binding motif and reactive oxygen species level (By similarity). Represses antiviral cytosolic DNA sensing by suppressing the expression of the adapter protein STING1 and decreasing responsiveness to STING1 agonists while increasing susceptibility to infection with DNA viruses (PubMed:30158636). Once activated, limits the release of pro-inflammatory cytokines in response to human coronavirus

SARS-CoV-2 infection and to virus-derived ligands through a mechanism that involves inhibition of IRF3 dimerization. Also inhibits both SARS-CoV-2 replication, as well as the replication of several other pathogenic viruses including Herpes Simplex Virus-1 and-2, Vaccinia virus, and Zika virus through a type I interferon (IFN)- independent mechanism (PubMed:33009401).

Cellular Location
Cytoplasm, cytosol. Nucleus {ECO:0000255|PROSITE-ProRule:PRU00978, ECO:0000269|PubMed:11035812, ECO:0000269|PubMed:15601839, ECO:0000269|PubMed:21196497, ECO:0000269|PubMed:29983246}. Note=Cytosolic under unstressed conditions: ubiquitinated and degraded by the BCR(KEAP1) E3 ubiquitin ligase complex (PubMed:15601839, PubMed:21196497). Translocates into the nucleus upon induction by electrophilic agents that inactivate the BCR(KEAP1) E3 ubiquitin ligase complex (PubMed:21196497)

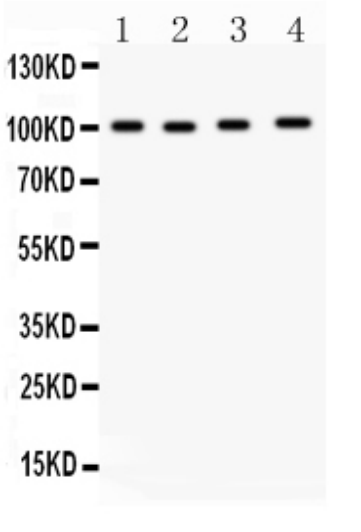
Tissue Location
Widely expressed. Highest expression in adult muscle, kidney, lung, liver and in fetal muscle

Anti-Nrf2 Picoband Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Anti-Nrf2 Picoband Antibody - Images



Anti- Nrf2 Picoband antibody, ABO11981, Western blottingAll lanes: Anti Nrf2 (ABO11981) at 0.5ug/mlLane 1: Rat Kidney Tissue Lysate at 50ugLane 2: Human Placenta Tissue Lysate at 50ugLane 3: Mouse Skeletal Muscle Tissue Lysate at 50ugLane 4: Mouse Lung Tissue Lysate at 50ugPredicted bind size: 68KDObserved bind size: 100KD

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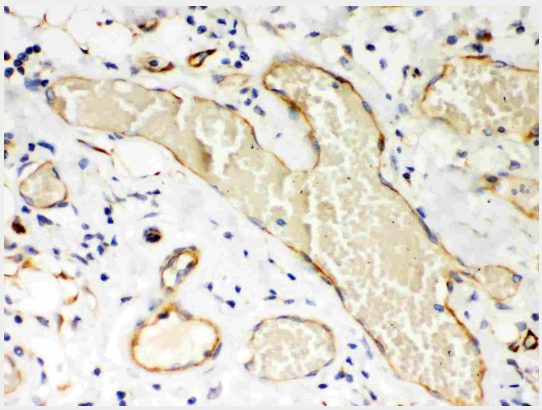

Anti- Nrf2 Picoband antibody, ABO11981, IHC(P)IHC(P): Human Lung Cancer Tissue

Anti-Nrf2 Picoband Antibody - Background

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.