Product Name: Phospho-Nrf2 (S40) (9X12) Rabbit Monoclonal Antibody
Catalog #: AMRe05954

Summary

Production Name	Phospho-Nrf2 (S40) (9X12) Rabbit Monoclonal Antibody
Description	Rabbit Monoclonal Antibody
Host	Rabbit
Application	WB
Reactivity	Human,Pig

Performance

Conjugation	Unconjugated
Modification	Phospho Antibody
Isotype	IgG
Clonality	Monoclonal
Form	Liquid
Storage	Store at 4°C short term. Aliquot and store at -20°C long term. Avoid freeze/thaw cycles.
Buffer	Supplied in 50mM Tris-Glycine(pH 7.4), 0.15M NaCl, 40%Glycerol, 0.01% New type preservative N and 0.05% BSA.
Purification	Affinity purification

Immunogen

Gene Name	NFE2L2 {ECO:0000303|PubMed:29018201, ECO:0000312|HGNC:HGNC:7782}
Alternative Names	E4TF1-60; E4TF1A; NFT2; NRF2; NRF2A;
Gene ID	4780.0
SwissProt ID	Q16236.A synthetic phosphopeptide corresponding to residues surrounding Ser40 of human Nrf2

Application

Dilution Ratio	WB: 1:2000
Molecular Weight	68kDa

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Background

Transcription activator that binds to antioxidant response (ARE) elements in the promoter regions of target genes. Important for the coordinated up-regulation of genes in response to oxidative stress. May 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. 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). Plays also 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 proinflammatory signaling pathways like MyD88-dependent and -independent and TNF-alpha signaling (By similarity). Suppresses macrophage inflammatory response by blocking proinflammatory cytokine transcription and the induction of IL6 (By similarity). Binds to the proximity of proinflammatory 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

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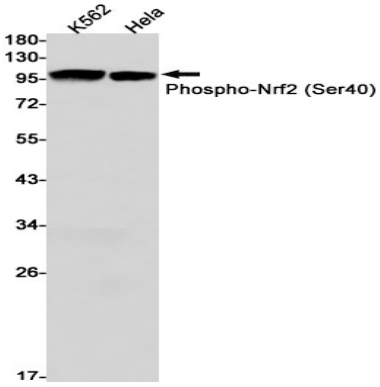
replication, as well as the replication of several other pathogenic viruses including Herpes Simplex Virus-1 and-2, Vaccinia virus, and Zika virus through a type I interferon (IFN)- independent mechanism (PubMed:33009401).

Research Area

Image Data



Western blot detection of Phospho-Nrf2 (Ser40) in K562,Hela cell lysates using Phospho-Nrf2 (Ser40) antibody(1:1000 diluted).

Note

For research use only.