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NRF2 Antibody

Store at -20C
#4399

For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W	H R Mk	Endogenous	120	Rabbit	#Q16236	4780

Product Usage Information

Application

Western Blotting

Dilution

1:1000

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at -20°C. Do not aliquot the antibody.

Specificity/Sensitivity

NRF2 Antibody detects endogenous levels of total NRF2 protein. The antibody also cross-reacts with 68 kDa and 31 kDa bands of indeterminate origin that may contain cleaved NRF2 protein or an alternative splice form of NRF2.

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues near the carboxy terminus of human NRF2 protein. Antibodies were purified by protein A and peptide affinity chromatography.

Background

The nuclear factor-like 2 (NRF2) transcriptional activator binds antioxidant response elements (ARE) of target gene promoter regions to regulate expression of oxidative stress response genes. Under basal conditions, the NRF2 inhibitor INrf2 (also called KEAP1) binds and retains NRF2 in the cytoplasm where it can be targeted for ubiquitin-mediated degradation (1). Small amounts of constitutive nuclear NRF2 maintain cellular homeostasis through regulation of basal expression of antioxidant response genes. Following oxidative or electrophilic stress, KEAP1 releases NRF2, thereby allowing the activator to translocate to the nucleus and bind to ARE-containing genes (2). The coordinated action of NRF2 and other transcription factors mediates the response to oxidative stress (3). Altered expression of NRF2 is associated with chronic obstructive pulmonary disease (COPD) (4). NRF2 activity in lung cancer cell lines directly correlates with cell proliferation rates, and inhibition of NRF2 expression by siRNA enhances anti-cancer drug-induced apoptosis (5).

Background References

1. Cullinan, S.B. et al. (2004) *Mol Cell Biol* 24, 8477-86.
2. Nguyen, T. et al. (2005) *J Biol Chem* 280, 32485-92.
3. Jaiswal, A.K. (2004) *Free Radic Biol Med* 36, 1199-207.
4. Suzuki, M. et al. (2008) *Am J Respir Cell Mol Biol* 39, 673-82.
5. Homma, S. et al. (2009) *Clin Cancer Res* 15, 3423-32.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting

Cross-Reactivity Key

H: Human **R:** Rat **Mk:** Monkey

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