CREATIVE BIOMART®
Assay Kit

NRF2 (Mouse) Transcription Factor Activity Assay Kit

Product Information

Cat

Kit-2290

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Product Overview

Cellular oxidative and electrophilic stress caused by drugs and other xenobiotics, inflammation, and ionizing radiation are associated with an accumulation of reactive oxygen species and electrophilic insults, which contribute to the pathogenesis of various diseases such as cancer, neurodegenerative disease, and atherosclerosis. In order to protect cells from reactive oxygen species and electrophilic insults, the endogenous cellular antioxidant defense system initiates a response to cellular oxidative and electrophilic stress. NRF2 (nuclear factor (erythroid-derived 2)-like 2; NFE2L2) is a key transcriptional factor regulating hundreds of antioxidant and Phase II detoxification genes. Under normal conditions, NRF2 is sequestered in the cytoplasm through binding with Keap1, an actin-binding protein and finally is degraded through the Keap1-dependent ubiquitination. In response to a stimulus, degradation of Keap1 is markedly increased. This leads to the disruption of the Keap1-NRF2 complex and nuclear translocation of NRF2. NRF2 then dimerizes with small Maf proteins and binds to the ARE (antioxidative response element) in promoters of downstream genes to initiate expression. Accurate monitoring of the level of activated NRF2 in cells, tissues or animal models is required for investigating signal transduction pathways and other research applications such as drug development. Simple, speedy and high-throughput methods are required for this purpose. The NRF2 Transcription Factor-Activity Assay kit is a non-radioactive transcription factor assay with an ELISA format. It offers an easy, speedy, sensitive and high-throughput method to detect the activation of transcription factors.

Applications

Detecting the NRF2 in mouse nuclear extraction and whole lysates.

Storage

-20°C

Tel: 1-631-559-9269 1-516-512-3133
Email:info@creative-biomart.org
Fax:1-631-938-8127
45-1 Ramsey Road, Shirley, NY 11967, USA

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Shipping

Gel Pack

Size

100 assays

Kit Components

Microplate; DNA Binding Buffer (5X); Positive Control; Specific Competitor DNA Probe; Non-specific Competitor DNA Probe; Assay Reagent; DTT (300 mM); Wash Buffer Concentrate (20X); Primary Antibody; HRP-conjugated Secondary Antibody; Antibody Diluent Buffer; TMB One-Step Substrate Reagent; Stop Solution

Target Species

Mouse

Detection method Absorbance (450 nm)

Features & Benefits

A non-radioactive transcription factor assay with an ELISA format.
An easy, speedy, sensitive and high-throughput method to detect the activation of transcription factors.

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