

Sequestosome Signaling Antibody Sampler Kit

Cat# AK0261

Upon receipt, store at -20°C. Avoid freeze/thaw cycles.

PRODUCT DESCRIPTION

Sequestosome 1 (SQSTM1, p62) is a ubiquitin binding protein involved in cell signaling, oxidative stress, and autophagy. It was first identified as a protein that binds to the SH2 domain of p56Lck and independently found to interact with PKC ζ . SQSTM1 was subsequently found to interact with ubiquitin, providing a scaffold for several signaling proteins and triggering degradation of proteins through the proteasome or lysosome. Interaction between SQSTM1 and TRAF6 leads to the K63-linked polyubiquitination of TRAF6 and subsequent activation of the NF- κ B pathway. Protein aggregates formed by SQSTM1 can be degraded by the autophagosome. SQSTM1 binds autophagosomal membrane protein LC3/Atg8, bringing SQSTM1-containing protein aggregates to the autophagosome. Lysosomal degradation of autophagosomes leads to a decrease in SQSTM1 levels during autophagy; conversely, autophagy inhibitors stabilize SQSTM1 levels. SQSTM1 also interacts with KEAP1, which is a cytoplasmic inhibitor of NRF2, a key transcription factor involved in cellular responses to oxidative stress. Under basal conditions, KEAP1 binds and retains NRF2 in the cytoplasm where it can be targeted for ubiquitin-mediated degradation. 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. The coordinated action of NRF2 and other transcription factors mediates the response to oxidative stress. Thus, accumulation of SQSTM1 can lead to an increase in NRF2 activity. KEAP1 also targets the down regulation of NF- κ B activity by targeting IKK β degradation. TrkA is a member of Trk receptor tyrosine kinases and is activated by NGF, which stimulates TrkA polyubiquitination. TrkA regulates proliferation and is important for development and maturation of the nervous system. SQSTM1 interaction with TRAF6 controls synthesis of K63 poly

PRODUCT INCLUDES

Cat No.	Product name	Quantity	Applications	Reactivity	Host
A340719	Nrf2 Polyclonal Antibody	20 μ L	WB, ELISA	Human, Mouse, Rat	Rabbit
A340714	KEAP1 Polyclonal Antibody	20 μ L	WB, ELISA	Human, Mouse, Rat	Rabbit
A1013s	Goat Anti-Rabbit IgG (H+L) (peroxidase/HRP conjugated)	120 μ L	WB, ELISA	Rabbit	Goat

PRODUCT USE LIMITATION

These products are intended for research use only.