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p45 NF-E2 Polyclonal Antibody

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP57979

Product Information

Application	IHC-P, IHC-F, IF, ICC, E
Primary Accession	Q16621
Reactivity	Rat
Host	Rabbit
Clonality	Polyclonal
Calculated MW	41473
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human NF-E2
Epitope Specificity	273-373/373
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SUBCELLULAR LOCATION	Nucleus
SIMILARITY	Belongs to the bZIP family. CNC subfamily.
SUBUNIT	Homodimer; can bind DNA as a homodimer. Erythroid transcription activator nuclear factor erythroid-derived 2 (NF-E2), composed of a heterodimer of NFE2 and MAFK, possesses transactivation activity on beta-globin. Also forms high affinity heterodimer with MAFG; the interaction promotes erythropoiesis. Interacts (via the PXY motif 1) with ITCH (via the WW 1 domain); the interaction promotes 'Lys63'-linked ubiquitination of NFE2, translocates it to the cytoplasm and inhibits its transactivation activity. Interacts with KMT2D/MLL2; the interaction promotes transactivation of the beta-globin locus (By similarity). Interacts with MAPK8 (phosphorylated form); the interaction leads to phosphorylation of NFE2 in undifferentiated cells (By similarity).
Post-translational modifications	Phosphorylated on serine residues. In undifferentiated erythrocytes, phosphorylated by MAPK8 which then leads to ubiquitination and protein degradation.Sumoylated. Sumoylation is required for translocation to nuclear bodies PODs, anchoring to the gene loci, and transactivation of the beta-globin gene.Ubiquitinated mainly by 'Lys63'-linked ubiquitin. Polyubiquitination with 'Lys63'-linked ubiquitin by ITCH retains NFE2 in the cytoplasm preventing its transactivation activity. In undifferentiated erythrocyte, ubiquitinated after MAPK8-mediatd phosphorylation leading to protein degradation (By similarity).
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	NFE2 (Nuclear Factor, Erythroid 2) is a Protein Coding gene. Diseases associated with NFE2 include Essential Thrombocythemia and Spherocytosis, Type 4. Among its related pathways are Response to elevated platelet cytosolic Ca2+ and Hematopoietic Stem Cell Differentiation. Gene Ontology (GO) annotations related to this gene include DNA binding transcription factor activity and transcription coactivator activity. An important paralog of this gene is NFE2L1.

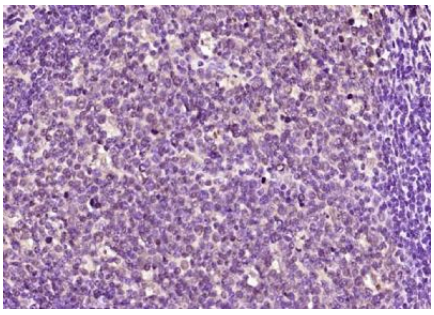
Additional Information

Gene ID	4778
Other Names	Transcription factor NF-E2 45 kDa subunit, Leucine zipper protein NF-E2, Nuclear factor, erythroid-derived 2 45 kDa subunit, p45 NF-E2, NFE2
Target/Specificity	Expressed in hematopoietic cells and also in colon and testis.
Dilution	IHC-P=1:100-500,IHC-F=1:100-500,ICC=1:100-500,IF=1:100-500,ELISA=1:5000-10000
Format	0.01M TBS(pH7.4) with 1% BSA, 0.09% (W/V) sodium azide and 50% Glyce
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

Name	NFE2
Function	Component of the NF-E2 complex essential for regulating erythroid and megakaryocytic maturation and differentiation. Binds to the hypersensitive site 2 (HS2) of the beta-globin control region (LCR). This subunit (NFE2) recognizes the TCAT/C sequence of the AP-1- like core palindrome present in a number of erythroid and megakaryocytic gene promoters. Requires MAFK or other small MAF proteins for binding to the NF-E2 motif. May play a role in all aspects of hemoglobin production from globin and heme synthesis to procurement of iron.
Cellular Location	Nucleus, PML body. Cytoplasm. Note=The sumoylated form locates to the nuclear bodies PML oncogenic domains (PODs) Translocated to the cytoplasm through interaction with ITCH
Tissue Location	Expressed in hematopoietic cells and also in colon and testis

Images



Paraformaldehyde-fixed, paraffin embedded (human tonsil); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (p45 NF-E2) Polyclonal Antibody, Unconjugated (AP57979) at 1:400 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructionsand DAB staining.