Product Datasheet

POLQ antibody

Catalog No: #43495

Package Size: #43495-1 50ul #43495-2 100ul

Orders: order@signalwayantibody.com
Support: tech@signalwayantibody.com

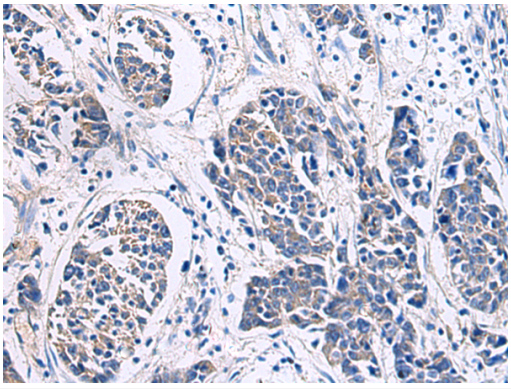
Description

Product Name	POLQ antibody
Host Species	Rabbit
Clonality	Polyclonal
Purification	Antigen affinity purification
Applications	IHC
Species Reactivity	Hu, Ms
Immunogen Description	Synthetic peptide of human POLQ
Target Name	POLQ
Other Names	PRO0327
Accession No.	NCBI Protein#:NP_955452
Uniprot	O75417
GeneID	10721
Concentration	0.9mg/ml
Formulation	pH7.4 PBS, 0.05% NaN3, 40% Glycerol
Storage	Store at -20°C/1 year

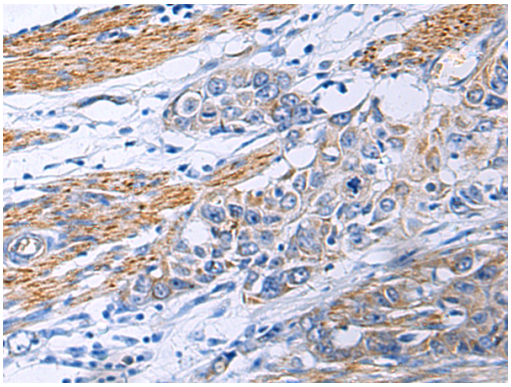
Application Details

IHC dilution:1:50-1:100

Images



The image is immunohistochemistry of paraffin-embedded Human colorectal cancer using (POLQ Antibody) at dilution 1/30.



The image is immunohistochemistry of paraffin-embedded Human esophagus cancer using (POLQ Antibody) at dilution 1/30.

Background

DNA polymerase that promotes microhomology-mediated end-joining (MMEJ), an alternative non-homologous end-joining (NHEJ) machinery triggered in response to double-strand breaks in DNA (PubMed:25642963, PubMed:25643323). MMEJ is an error-prone repair pathway that produces deletions of sequences from the strand being repaired and promotes genomic rearrangements, such as telomere fusions, some of them leading to cellular transformation (PubMed:25642963, PubMed:25643323). POLQ acts as an inhibitor of homology-recombination repair (HR) pathway by limiting RAD51 accumulation at resected ends (PubMed:25642963). POLQ-mediated MMEJ may be required to promote the survival of cells with a compromised HR repair pathway, thereby preventing genomic havoc by resolving unrepaired lesions (By similarity). The polymerase acts by binding directly the 2 ends of resected double-strand breaks, allowing microhomologous sequences in the overhangs to form base pairs. It then extends each strand from the base-paired region using the opposing overhang as a template. Requires partially resected DNA containing 2 to 6 base pairs of microhomology to perform MMEJ (PubMed:25643323). The polymerase activity is highly promiscuous: unlike most polymerases, promotes extension of ssDNA and partial ssDNA (pssDNA) substrates (PubMed:18503084, PubMed:21050863, PubMed:22135286). Also exhibits low-fidelity DNA synthesis, translesion synthesis and lyase activity, and it is implicated in interstrand-cross-link repair, base excision repair and DNA end-joining (PubMed:14576298, PubMed:18503084, PubMed:19188258, PubMed:24648516). Involved in somatic hypermutation of immunoglobulin genes, a process that requires the activity of DNA polymerases to ultimately introduce mutations at both A/T and C/G base pairs (By similarity).

Note: This product is for in vitro research use only