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DGCR8 Antibody

Rabbit mAb
Catalog # AP90537

Product Information

Application	WB, IF, ICC, IP
Primary Accession	Q8WYQ5
Reactivity	Rat, Human, Mouse
Clonality	Monoclonal
Other Names	DGCR8; DGCRK6; Gy1 ; C22orf12; D16Wis2; pasha;
Isotype	Rabbit IgG
Host	Rabbit
Calculated MW	86045

Additional Information

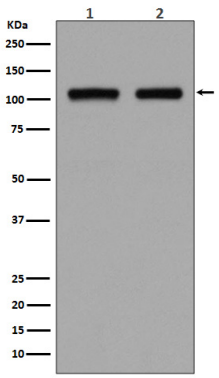
Dilution	WB 1:500~1:2000 ICC/IF 1:100~1:500 IP 1:50
Purification	Affinity-chromatography
Immunogen	A synthesized peptide derived from human DGCR8
Description	Component of the microprocessor complex that is required to process primary miRNA transcripts (pri-miRNAs) to release precursor miRNA (pre-miRNA) in the nucleus. Within the microprocessor complex, DGCR8 function as a molecular anchor necessary for the recognition of pri-miRNA at dsRNA-ssRNA junction and directs DROSHA to cleave 11 bp away form the junction to release hairpin-shaped pre-miRNAs that are subsequently cut by the cytoplasmic DICER to generate mature miRNAs.
Storage Condition and Buffer	Rabbit IgG in phosphate buffered saline , pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol. Store at +4°C short term. Store at -20°C long term. Avoid freeze / thaw cycle.

Protein Information

Name	DGCR8
Synonyms	C22orf12, DGCRK6
Function	Component of the microprocessor complex that acts as a RNA- and heme-binding protein that is involved in the initial step of microRNA (miRNA) biogenesis. Component of the microprocessor complex that is required to process primary miRNA transcripts (pri-miRNAs) to release precursor miRNA (pre-miRNA) in the nucleus. Within the microprocessor complex, DGCR8 function as a molecular anchor necessary for the recognition of pri-miRNA at dsRNA-ssRNA junction and directs DROSHA to cleave 11 bp away form the junction to release hairpin-shaped pre-miRNAs that are subsequently cut by the cytoplasmic DICER to generate mature miRNAs (PubMed:26027739, PubMed:26748718). The heme- bound DGCR8 dimer binds pri-miRNAs as a

	cooperative trimer (of dimers) and is active in triggering pri-miRNA cleavage, whereas the heme-free DGCR8 monomer binds pri-miRNAs as a dimer and is much less active. Both double-stranded and single-stranded regions of a pri-miRNA are required for its binding (PubMed:15531877, PubMed:15574589, PubMed:15589161, PubMed:16751099, PubMed:16906129, PubMed:16963499, PubMed:17159994). Specifically recognizes and binds N6-methyladenosine (m6A)-containing pri-miRNAs, a modification required for pri-miRNAs processing (PubMed:25799998). Involved in the silencing of embryonic stem cell self-renewal (By similarity). Also plays a role in DNA repair by promoting the recruitment of RNF168 to RNF8 and MDC1 at DNA double- strand breaks and subsequently the clearance of DNA breaks (PubMed:34188037).
Cellular Location	Nucleus. Nucleus, nucleolus. Note=Colocalizes with nucleolin and DROSHA in the nucleolus. Mostly detected in the nucleolus as electron-dense granular patches around the fibrillar center (FC) and granular component (GC). Also detected in the nucleoplasm as small foci adjacent to splicing speckles near the chromatin structure. Localized with DROSHA in GW bodies (GWBs), also known as P-bodies (PubMed:17159994)
Tissue Location	Ubiquitously expressed.

Images



Western blot analysis of DGCR8 expression in (1) HEK293 cell lysate; (2) HeLa cell lysate.

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