10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

DGCR8 Rabbit pAb

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Catalog # AP55509

Product Information

Application	WB, IHC-P, IHC-F, IF, E
Primary Accession	Q8WYQ5
Predicted	Human, Mouse, Rat, Chimpanzee, Rhesus, Gorilla, Orangutan
Host	Rabbit
Clonality	Polyclonal
Calculated MW	86045
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human DGCR8
Epitope Specificity	51-150/773
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. Nucleus; nucleolus. 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.
SIMILARITY	Contains 2 DRBM (double-stranded RNA-binding) domains. Contains 1 WW domain.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	This gene encodes a subunit of the microprocessor complex which mediates the biogenesis of microRNAs from the primary microRNA transcript. The encoded protein is a double-stranded RNA binding protein that functions as the non-catalytic subunit of the microprocessor complex. This protein is required for binding the double-stranded RNA substrate and facilitates cleavage of the RNA by the ribonuclease III protein, Drosha. Alternate splicing results in multiple transcript variants. [provided by RefSeq, Jun 2010]

Additional Information

Gene ID	54487
Other Names	Microprocessor complex subunit DGCR8, DiGeorge syndrome critical region 8, DGCR8, C22orf12, DGCRK6
Target/Specificity	Ubiquitously expressed.
Dilution	WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500,ICC/IF=1:100-500,IF=1:100-500,ELISA=1:5000-10000

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	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.

Background

This gene encodes a subunit of the microprocessor complex which mediates the biogenesis of microRNAs from the primary microRNA transcript. The encoded protein is a double-stranded RNA binding protein that functions as the non-catalytic subunit of the microprocessor complex. This protein is required for binding the double-stranded RNA substrate and facilitates cleavage of the RNA by the ribonuclease III protein, Drosha. Alternate splicing results in multiple transcript variants. [provided by RefSeq, Jun 2010]