

RAP2B

Identity

Hugo [RAP2B](#)
Location 3q24

DNA/RNA



G1 - G5 : domains involved in GDP/GTP binding and hydrolysis
G1 + G3 : involved in binding beta and gamma phosphates of GTP
G4 + G5 : involved in interaction with the guanine base
G2: involved in interaction with effectors, and with Mg²⁺ ion
M1: polybasic or palmitoylation site
M2: prenylation site

Description The gene contains 1 coding exon only covering 644 bp

Protein

Description Rap2 is a member of the Ras superfamily of monomeric GTPases, closely related to [Ras](#). There are two isoforms, [Rap2A](#) and Rap2B that share 90% identity and are encoded by two different genes. Rap2 proteins share 50% identity with Ras proteins, including the regions involved in GDP/GTP binding (hence Rap2A has very similar biochemical properties to Ras), C-terminal CAAX domain leading to prenylation (farnesylation for Rap2A and geranylgeranylation in the case of Rap2B) and palmitoylation. The effector region of Rap2 is very similar to that of Ras proteins, yet Ras and Rap2 do not seem to share effectors.

Expression ubiquitous ; higher in brain and hemopoietic tissues (especially rich in platelets and neutrophils)

Localisation plasma and/or intracellular membranes (endoplasmic reticulum)

Function unknown

Homology 90% identical to Rap2A, 60% identical to Rap1, 50 % to Ras proteins

Mutations

Germinal unknown

Implicated in

Entity no implication in pathologies characterized so far

To be noted

see also [RAP family](#)

External links

Nomenclature

[Hugo](#)

[RAP2B](#)

[GDB](#)

[RAP2B](#)

[Entrez Gene](#)

[RAP2B 5912](#) RAP2B, member of RAS oncogene family

	Cards
Atlas	RAP2BID275
GeneCards	RAP2B
Ensembl	RAP2B
Genatlas	RAP2B
GeneLynx	RAP2B
eGenome	RAP2B
euGene	5912
	Genomic and cartography
GoldenPath	RAP2B - 3q24 chr3:154362727-154368959 + 3q25.2 (hg17-May_2004)
Ensembl	RAP2B - 3q25.2 [CytoView]
NCBI	Genes Cyto Gene Seq [Map View - NCBI]
OMIM	Disease map [OMIM]
HomoloGene	RAP2B
	Gene and transcription
Genbank	AC117394 [SRS] AC117394 [ENTREZ]
Genbank	AF493915 [SRS] AF493915 [ENTREZ]
Genbank	AL713766 [SRS] AL713766 [ENTREZ]
Genbank	BC012362 [SRS] BC012362 [ENTREZ]
Genbank	X52987 [SRS] X52987 [ENTREZ]
RefSeq	NM_002886 [SRS] NM_002886 [ENTREZ]
RefSeq	NT_086641 [SRS] NT_086641 [ENTREZ]
AceView	RAP2B AceView - NCBI
TRASER	RAP2B Traser - Stanford
Unigene	Hs.98643 [SRS] Hs.98643 [NCBI] HS98643 [spliceNest]
	Protein : pattern, domain, 3D structure
SwissProt	P17964 [SRS] P17964 [EXPASY] P17964 [INTERPRO]
CluSTr	P17964
Blocks	P17964
	Polymorphism : SNP, mutations, diseases
OMIM	179541 [map]
GENECLINICS	179541
SNP	RAP2B [dbSNP-NCBI]
SNP	NM_002886 [SNP-NCI]
SNP	RAP2B [GeneSNPs - Utah] RAP2B [SNP - CSHL] RAP2B [HGBASE - SRS]
	General knowledge
Family Browser	RAP2B [UCSC Family Browser]
SOURCE	NM_002886
SMD	Hs.98643
SAGE	Hs.98643
Amigo	function GTP binding
Amigo	process protein transport
Amigo	process small GTPase mediated signal transduction
BIOCARTA	Phospholipase C-epsilon pathway
PubGene	RAP2B
	Other databases
	Probes
Probe	RAP2B Related clones (RZPD - Berlin)
	PubMed

PubMed [6 Pubmed reference\(s\) in LocusLink](#)

Bibliography

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J. Biol. Chem 1991; 266, 4315-4321
Medline [1900290](#)

Isoprenylation of rap2 proteins in platelets and human erythroleukemia cells.

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Medline [8356055](#)

Rap1B and Rap2B translocation to the cytoskeleton by von Willebrand factor involves FcγRIII receptor-mediated protein tyrosine phosphorylation.

Torti M, Bertoni A, Canobbio I, Sinigaglia F, Lapetina EG, Balduini C.
J. Biol. Chem 1999; 274, 13690-13697
Medline [10224142](#)

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Contributor(s)

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Citation

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URL : <http://www.infobiogen.fr/services/chromcancer/Genes/RAP2BID275.html>

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