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Nucleotide

GenBank

Homo sapiens fms related receptor tyrosine kinase 3 (FLT3), transcript variant 1, mRNA

NCBI Reference Sequence: NM_004119.3

[FASTA](#) [Graphics](#)

Go to:

LOCUS	NM_004119	3826 bp	mRNA	linear	PRI 22-JAN-2023
DEFINITION	Homo sapiens fms related receptor tyrosine kinase 3 (FLT3), transcript variant 1, mRNA.				
ACCESSION	NM_004119				
VERSION	NM_004119.3				
KEYWORDS	RefSeq; MANE Select.				
SOURCE	Homo sapiens (human)				
ORGANISM	Homo sapiens Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Primates; Haplorrhini; Catarrhini; Hominidae; Homo.				
REFERENCE	1 (bases 1 to 3826)				
AUTHORS	Sahasrabudhe KD and Mims AS.				
TITLE	Novel investigational approaches for high-risk genetic subsets of AML: TP53, KMT2A, FLT3				
JOURNAL	Hematology Am Soc Hematol Educ Program 2022 (1), 15-22 (2022)				
PUBMED	36485136				
REMARK	GeneRIF: Novel investigational approaches for high-risk genetic subsets of AML: TP53, KMT2A, FLT3.				
REFERENCE	2 (bases 1 to 3826)				
AUTHORS	Vu MP, Nguyen CN, Vu H, Nguyen TM, Nguyen TT and Pham PT.				
TITLE	Association between FLT3-ITD and additional chromosomal abnormalities in the prognosis of acute promyelocytic leukemia				
JOURNAL	J Int Med Res 50 (12), 3000605221138490 (2022)				
PUBMED	36539954				
REMARK	GeneRIF: Association between FLT3-ITD and additional chromosomal abnormalities in the prognosis of acute promyelocytic leukemia.				
REFERENCE	3 (bases 1 to 3826)				
AUTHORS	Ei Ei Aung N, Yamsri S, Teawtrakul N, Kamsaen P and Fucharoen S.				
TITLE	FLT3 Gene Mutations in Acute Myeloid Leukemia Patients in Northeast Thailand				
JOURNAL	Med Sci Monit Basic Res 28, e937446 (2022)				
PUBMED	36542496				
REMARK	GeneRIF: FLT3 Gene Mutations in Acute Myeloid Leukemia Patients in Northeast Thailand. Publication Status: Online-Only				
REFERENCE	4 (bases 1 to 3826)				
AUTHORS	Frikha R, Abdellaoui N, Kassar O and Rebai T.				
TITLE	Lack of FLT3-ITD in Tunisian childhood acute lymphoblastic leukemia				
JOURNAL	Afr Health Sci 22 (2), 318-322 (2022)				
PUBMED	36407352				
REMARK	GeneRIF: Lack of FLT3-ITD in Tunisian childhood acute lymphoblastic leukemia.				
REFERENCE	5 (bases 1 to 3826)				
AUTHORS	Langdon WY.				
TITLE	FLT3 signaling and the development of inhibitors that target FLT3 kinase activity				
JOURNAL	Crit Rev Oncog 17 (2), 199-209 (2012)				
PUBMED	22471708				
REMARK	Review article				
REFERENCE	6 (bases 1 to 3826)				
AUTHORS	Parcells BW, Ikeda AK, Simms-Waldrip T, Moore TB and Sakamoto KM.				
TITLE	FMS-like tyrosine kinase 3 in normal hematopoiesis and acute myeloid leukemia				

JOURNAL Stem Cells 24 (5), 1174-1184 (2006)
PUBMED [16410383](#)
REMARK Review article
REFERENCE 7 (bases 1 to 3826)
AUTHORS Carow CE, Kim E, Hawkins AL, Webb HD, Griffin CA, Jabs EW, Civin CI and Small D.
TITLE Localization of the human stem cell tyrosine kinase-1 gene (FLT3) to 13q12-->q13
JOURNAL Cytogenet Cell Genet 70 (3-4), 255-257 (1995)
PUBMED [7789184](#)
REFERENCE 8 (bases 1 to 3826)
AUTHORS Small D, Levenstein M, Kim E, Carow C, Amin S, Rockwell P, Witte L, Burrow C, Ratajczak MZ, Gewirtz AM et al.
TITLE STK-1, the human homolog of Flk-2/Flt-3, is selectively expressed in CD34+ human bone marrow cells and is involved in the proliferation of early progenitor/stem cells
JOURNAL Proc Natl Acad Sci U S A 91 (2), 459-463 (1994)
PUBMED [7507245](#)
REFERENCE 9 (bases 1 to 3826)
AUTHORS Dosil M, Wang S and Lemischka IR.
TITLE Mitogenic signalling and substrate specificity of the Flk2/Flt3 receptor tyrosine kinase in fibroblasts and interleukin 3-dependent hematopoietic cells
JOURNAL Mol Cell Biol 13 (10), 6572-6585 (1993)
PUBMED [7692230](#)
REFERENCE 10 (bases 1 to 3826)
AUTHORS Rosnet O, Mattei MG, Marchetto S and Birnbaum D.
TITLE Isolation and chromosomal localization of a novel FMS-like tyrosine kinase gene
JOURNAL Genomics 9 (2), 380-385 (1991)
PUBMED [2004790](#)
COMMENT REVIEWED [REFSEQ](#): This record has been curated by NCBI staff. The reference sequence was derived from [BI461248.1](#), [Z26652.1](#), [AL356915.19](#), [U02687.1](#), [AL591024.14](#) and [AW057705.1](#).

On Aug 31, 2019 this sequence version replaced [NM_004119.2](#).

Summary: This gene encodes a class III receptor tyrosine kinase that regulates hematopoiesis. This receptor is activated by binding of the fms-related tyrosine kinase 3 ligand to the extracellular domain, which induces homodimer formation in the plasma membrane leading to autophosphorylation of the receptor. The activated receptor kinase subsequently phosphorylates and activates multiple cytoplasmic effector molecules in pathways involved in apoptosis, proliferation, and differentiation of hematopoietic cells in bone marrow. Mutations that result in the constitutive activation of this receptor result in acute myeloid leukemia and acute lymphoblastic leukemia. [provided by RefSeq, Jan 2015].

Transcript Variant: This variant (1) represents the shorter transcript and encodes the protein.

Publication Note: This RefSeq record includes a subset of the publications that are available for this gene. Please see the Gene record to access additional publications.

##Evidence-Data-START##
Transcript exon combination :: Z26652.1, U02687.1 [ECO:0000332]
RNAseq introns :: mixed sample support SAMEA1965299, SAMEA1966682 [ECO:0006172]
##Evidence-Data-END##

##RefSeq-Attributes-START##
MANE Ensembl match :: ENST00000241453.12/ ENSP00000241453.7
RefSeq Select criteria :: based on conservation, expression, longest protein
##RefSeq-Attributes-END##

COMPLETENESS: complete on the 3' end.

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	355-1102	U02687.1	346-1093	
	1103-3479	Z26652.1	1037-3413	
	3480-3598	AL591024.14	61478-61596	c
	3599-3826	AW057705.1	7-234	c

FEATURES

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Region: Important for normal regulation of the kinase activity and for maintaining the kinase in an inactive state in the absence of bound ligand"

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ORIGIN

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