

Product datasheet for **RC227747**

GTF2H1 (NM_001142307) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	GTF2H1 (NM_001142307) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	GTF2H1
Synonyms:	BTF2; P62; TFB1; TFIIH
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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ORF Nucleotide Sequence:

>RC227747 ORF sequence
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGCATCGCC**

ATGGCAACCTCATCTGAAGAAGTTTGGCTGATTGTAAGAAAGTGCCTCAAAGAAGCAGGATGGAGCTC
 TGTACCTCATGGCAGAAAGAATTGCTTGGGCACCTGAAGGCAAAGATAGATTTACAATCAGCCATATGTA
 GCAGATATTAATGCCAGAAAATTAGTCCAGAAGGAAAAGCTAAAATTCAGCTTCAGCTGGTCCTACAT
 GCAGGGGACACAATACTTCCATTTTTCCAATGAAAGCACAGCAGTGAAAGAGCGAGATGCAGTAAAG
 ACCTTCTCAGCAGCTGCTGCCAAATCAAGAGGAAAGCAAATAAAGAAGTGAAGAGAAGAACAAGT
 GCTGCAAGAAGATCCTGTTTTGTTTCAGCTTTATAAAGACCTGTTGTGAGTCAAGTGCAGTGCAGTGCAG
 GAATTCGGGCAATCGTTTAAATGTGAATGCAACAGATAGTTCTCCACATCCAATCATAAGCAGGATG
 TTGGCATTCTGCTGCATTTCTGGCTGATGTCGGCCCCAACTGATGGCTGTAACGGTCTAAGATATAA
 TTTAACTTCTGATATCATTGAGTCCATATTTAGGACCTATCCAGCAGTAAAAATGAAATATGCAGAAAAT
 GTTCCCCACAACATGACAGAGAAGGAATTCGGACACGTTTTTTCCAGTCCCATTATTTTACAGGGATC
 GGCTGAATACAGGGTCAAAGGATCTCTTTGCAGAATGTGCCAAAATAGATGAAAAAGGCCTAAAAACAAT
 GGTTCATTAGGAGTAAAAACCCACTACTAGATTTAACAGCTTTGGAAGATAAACCATTAGATGAGGGC
 TATGGCATTTCCTCTGTGCCATCTGCTTCCAATCTAAATCCATAAAAAGAGAATAGTAATGCTGCCATCA
 TCAAGAGATTTAACCATCACAGTCCATGGTCTGGCAGCTGGACTCAGAAAACAAGAAGCACAAAATGA
 ACAAACTAGTGAGCCAGCAACATGGATGGAATTCGGGAGATGCAGACTGCTTTCAGCCAGCAGTCAA
 AGGGCGAAATACAAGAGTCCATTGAATATGAAGACTTGGGAAAAATAATTCTGTAAAAACGATTGCAC
 TAAACCTCAAGAAGTCAGATAGTATTATCATGGTCCAACCTCCAATCCAGTCACTACAGTATGCAACAAG
 TCAGGACATTATTAATTCTTTTCAAAGTATTAGACAAGAAATGGAAGCTTATACACCCAAGTTAACTCAG
 GTTCTCTCAAGTAGTGTGCCAGTAGTACCATCACAGCACTGTACCTGGAGGGGCACTTATGCAGGGAG
 GAACACAGCAAGCCATAAACAGATGGTGCCAAATGATATTCAATCTGAATTGAAACACTTATATGTAGC
 TGTTGGAGAATTCTACGACATTTCTGGTCTGCTTCTGTTAATACGCCATTCTAGAAGAAAAGGTA
 GTGAAAATGAAAAGTAATTTGGAACGATTCCAAGTTACGAAGCTGTGCCATTCCAAGAAAAGATTCCGA
 GACAGTATTTAAGCACAATTTGGTAAGTCACATAGAAGAGATGCTCCAGACAGCCTACAACAAGCTCCA
 CACATGGCAGTCACGGCTCTGATGAAGAAAACG

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>RC227747 protein sequence
 Red=Cloning site Green=Tags(s)

MATSSSEVLLIVKKVRQKKQDGLYLMAERIAWAPEGKDRFTISHMYADIKCQKISPEGKAKIQLQLVLH
 AGDTTNFHFSNESTAVKERDAVKDLLQQLLPKFKRKANKKELEEKNRMLQEDPVL FQLYKDLVVSQVISAE
 EFWANRLNVNATDSSSTS~~SNHKQ~~DVGI SAAFLADVRPQTDGCNGLRYNL TSDIIESIFRTPAVKMKYAEN
 VPHNMTEKEFWTRFFQSHYFHRDRLNTGSKDLFAECAKIDKGLKTMVSLGVKNPLLDLTALEDKPLDEG
 YGISSVPSASNSKSIKENSNAAIKRFNHHSAMVLAAGLRKQEAQNEQTSEPSNMDGNSGDADCFQPAVK
 RAKLQESIEYEDLGKNNVKTIALNLKSDRYHGPPTPIQSLQYATSQDIINSFQSI~~RQEME~~AYTPKLTQ
 VLSSSAASSTITALSPGGALMQGGTQQA~~INQMVPNDIQ~~SELKHL YVAVGELLRHFWSFCFPVNTPFLEEKV
 VKMKS~~NLERFQVTKL~~CPFQEKIRRQYLSTNLVSHIEEMLQTAYNKLHTWQSRRLMKKT

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms:

https://cdn.origene.com/chromatograms/mk6675_f12.zip

Restriction Sites:

Sgfl-MluI

Cloning Scheme:


ACCN: NM_001142307

ORF Size: 1644 bp

OTI Disclaimer: The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone is substantially in agreement with the reference, but a complete review of all prevailing variants is recommended prior to use. [More info](#)

OTI Annotation: This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.

Components: The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).

Reconstitution Method:

1. Centrifuge at 5,000xg for 5min.
2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.
3. Close the tube and incubate for 10 minutes at room temperature.
4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.
5. Store the suspended plasmid at -20°C. The DNA is stable for at least one year from date of shipping when stored at -20°C.

RefSeq: [NM_001142307.1](#), [NP_001135779.1](#)

RefSeq Size: 3515 bp

RefSeq ORF: 1647 bp

Locus ID: 2965

UniProt ID: [P32780](#)

Cytogenetics: 11p15.1

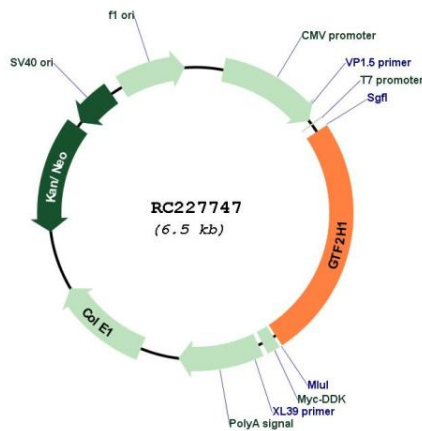
Protein Families: Druggable Genome, Transcription Factors

Protein Pathways: Basal transcription factors, Nucleotide excision repair

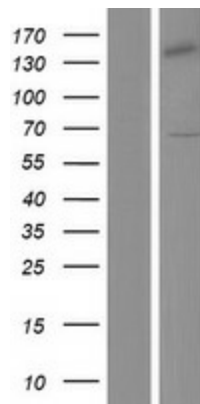
MW: 62 kDa

Gene Summary: Component of the general transcription and DNA repair factor IIF (TFIIH) core complex, which is involved in general and transcription-coupled nucleotide excision repair (NER) of damaged DNA and, when complexed to CAK, in RNA transcription by RNA polymerase II. In NER, TFIIH acts by opening DNA around the lesion to allow the excision of the damaged oligonucleotide and its replacement by a new DNA fragment. In transcription, TFIIH has an essential role in transcription initiation. When the pre-initiation complex (PIC) has been established, TFIIH is required for promoter opening and promoter escape. Phosphorylation of the C-terminal tail (CTD) of the largest subunit of RNA polymerase II by the kinase module CAK controls the initiation of transcription.[UniProtKB/Swiss-Prot Function]

Product images:



Circular map for RC227747



Western blot validation of overexpression lysate (Cat# [LY428028]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC227747 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).