

## Product datasheet for **RG202111**

### **CBFB (NM\_001755) Human Tagged ORF Clone**

#### Product data:

**Product Type:** Expression Plasmids  
**Product Name:** CBFB (NM\_001755) Human Tagged ORF Clone  
**Tag:** TurboGFP  
**Symbol:** CBFB  
**Synonyms:** PEBP2B  
**Mammalian Cell Selection:** Neomycin  
**Vector:** pCMV6-AC-GFP (PS100010)  
**E. coli Selection:** Ampicillin (100 ug/mL)  
**ORF Nucleotide Sequence:** >RG202111 representing NM\_001755  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGATCGCC**

ATGCCGCGTCGTGCCCGACCAGAGAAGCAAGTTCGAGAACGAGGAGTTTTTATAGGAAGCTGAGCCGCG  
 AGTGTGAGATTAAGTACACGGGCTTCAGGGACCGCCACGAGGAACGCCAGGCACGCTCCAGAACGC  
 CTGCCGACGGCCGCTCGGAAATCGCTTTTGTGGCCACAGGAACCAATCTGTCTCTCCAGTTTTTCCG  
 GCCAGCTGGCAGGAGAACAGCGACAAACACCTAGCCGAGAGTATGTCGACTTAGAAAGAGAAGCAGGCA  
 AGGTATATTTGAAGGCTCCCATGATTCTGAATGGAGTCTGTGTTATCTGAAAGGCTGGATTGATCTCCA  
 AAGACTGGATGGTATGGGCTGTCTGGAGTTTGATGAGGAGCGAGCCAGCAGGAGGATGCATTAGCACAA  
 CAGGCCTTTGAAGAGGCTCGGAGAAGGACACGCGAATTTGAAGATAGAGACAGGTCTCATCGGGAGGAAA  
 TGGAGGTGAGAGTTTCACAGCTGCTGGCAGTAAGTGGCAAGAAGACAACAAGACCC

**ACGCGT**ACGCGGCCGCTCGAG - GFP Tag - GTTTAA

**Protein Sequence:** >RG202111 representing NM\_001755  
 Red=Cloning site Green=Tags(s)

MPRVVPDQRSKFENEFFRKLRSRECEIKYTGFRDRPHEERQARFQNAACDRGRSEIAFVATGTNLSLQFFP  
 ASWQGEQRQTPSREYVDLEREAGKVYLKAPMILNGVCVIWKGWIDLQRLDGMGCLFDEERAQQEDALAQ  
 QAFEEARRRTREFEDRDRSHREEMEVRSQLLAVTGKKTTRP

**TRTRPLE** - GFP Tag - V

**Restriction Sites:** SgfI-MluI



**Cloning Scheme:**


**ACCN:** NM\_001755

**ORF Size:** 546 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\\_001755.3](#)

**RefSeq Size:** 3181 bp

**RefSeq ORF:** 549 bp

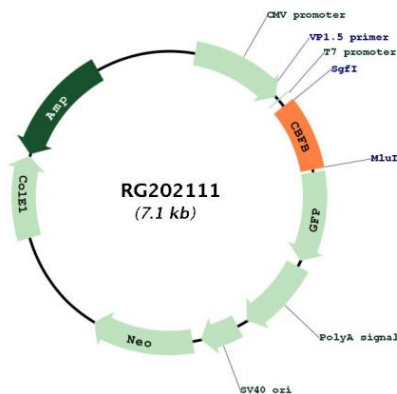
**Locus ID:** 865

**UniProt ID:** [Q13951](#)

**Cytogenetics:** 16q22.1  
**Domains:** CBF\_beta  
**Protein Families:** Druggable Genome, Transcription Factors

**Gene Summary:** The protein encoded by this gene is the beta subunit of a heterodimeric core-binding transcription factor belonging to the PEBP2/CBF transcription factor family which master-regulates a host of genes specific to hematopoiesis (e.g., RUNX1) and osteogenesis (e.g., RUNX2). The beta subunit is a non-DNA binding regulatory subunit; it allosterically enhances DNA binding by alpha subunit as the complex binds to the core site of various enhancers and promoters, including murine leukemia virus, polyomavirus enhancer, T-cell receptor enhancers and GM-CSF promoters. Alternative splicing generates two mRNA variants, each encoding a distinct carboxyl terminus. In some cases, a pericentric inversion of chromosome 16 [inv(16)(p13q22)] produces a chimeric transcript consisting of the N terminus of core-binding factor beta in a fusion with the C-terminal portion of the smooth muscle myosin heavy chain 11. This chromosomal rearrangement is associated with acute myeloid leukemia of the M4Eo subtype. Two transcript variants encoding different isoforms have been found for this gene. [provided by RefSeq, Jul 2008]

**Product images:**



Circular map for RG202111