

Start codon

atgtccc atcaacctct cagctgcctc actgaaaagg aggacagccc cagtгаааgс

acaggaaatg gacccccca cctggccac ccaaacctgg acacgtttac cccggaggag

ctgctgcagc agatгаааgа gctcctgacc gagaaccacc agctгаааgа agccatгааг

ctaaataatc aagccatгаа agggagattt gaggagcttt cggcctggac agагааacag

aaggааgаac gccagtttt tgagatacag agcaaаgаag caaaagagcg tctaатggcc

ttgagtcatg агаатgаgаа attгааaggаа gagcttgгаа aactaaaagg gaaatcаgаа

aggтcatctg aggacccccac tgatgactcc aggcttcca gggccgаagc ggagcaggаа

aaggaccagc tcaggacca ggtggtgagg ctacaagcag агаaggcаgа cctgttgggc

atcgtgtctg aactgcagct caagctgаac tccagcggct cctcаgааgа ttctttgtt

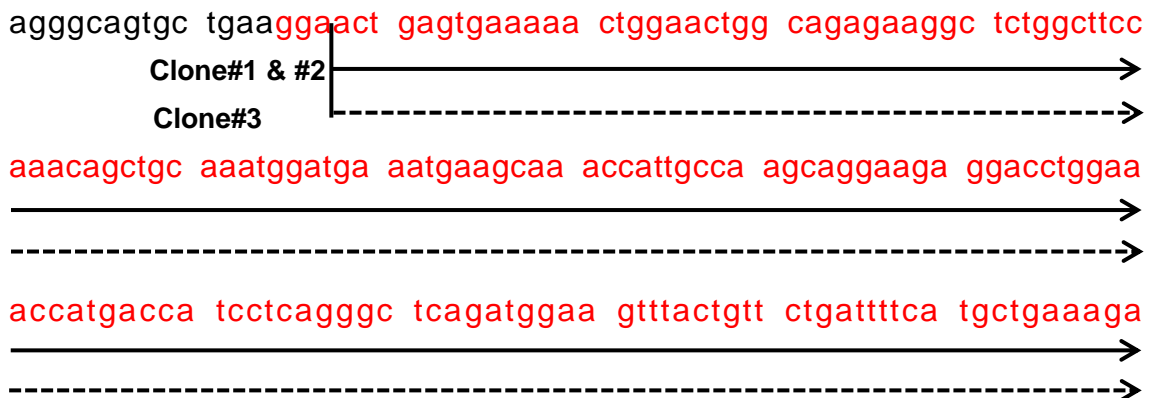
gaaattagga tggctgаagg агаagcаgаа gggтcagтaа агаааatcaа gcatagtctt

gggcccacgа gaacagtctc cactggcacg gcattgtcta аататaggag cagatctgca

gatggggcca агаattactt cгаacatgag gagttaactg tgagccagct cctgctgtgc

ctaagggag ggaatcagaa ggtggagaga cttgaagttg cactcaagga ggccaaagaa  
 agagtttcag atttgaaaa gaaaacaagt aatcgttctg agattgaaac ccagacagag  
 gggagcacag agaaagagaa tgatgaagag aaaggcccgg agactgttg aagcgaagtg  
 gaagcactga acctccaggt gacatctctg ttaaggagc ttcaagaggc tcatacaaaa  
 ctcagcgaag ctgagctaata gaagaagaga cttcaagaaa agtgtcaggc ccttgaagag  
 aaaaattctg caattccatc agagttgaat gaaaagcaag agcttgttta tactaacaaa  
 aagttagagc tacaagtga aagcatgcta tcagaaatca aatggaaca ggctaaaaca  
 gaggatgaaa agtccaaatt aactgtgcta cagatgacac acaacaagct tctcaagaa  
 cataataatg cattgaaaac aattgaggaa ctaacaagaa aagagtcaga aaaagtggac

**Ubiquitin-binding domain (424-509 amino acids)**



gcagcgagag agaaaattca tgaggaaaag gagcaactgg cattgcagct ggcagttctg

----->

ctgaaagaga atgatgcttt cgaagacgga ggcaggcagt ccttgatgga gatgcagagt

----->

cgcatgggg cgagaacaag tgactctgac cagcaggctt acctgttca aagaggagct

----->

gaggacaggg actggcggca acagcggat attccgattc attcctgcc caagtgtgga

----->

STOP codon

gaggttctgc ctgacataga cacgttacag attcacgtga tggattgcat catt<sup>taa</sup>gtg

----->

ttgatgtatc acctcccaa aactgttggg aaatgtcaga tttttcctc caagagttgt

----->

gcttttgtgt tattgtttt cactcaaata tttgcctca ttattcttgt tttaaagaa

----->

agaaaacagg ccgggcacag tggctcatgc ctgtaatccc agcactttgg gaggtcgagg

----->

tgggtggatc acttggggtc agggttgag accagcctgg ccaacatggc ggaaccctgt

----->

ctctaccaa attacaaaa ttagccgagc atggtggcgc atgcctgtag tgcagctac

----->

tcgagaggtt gaggcaggag aattgcttga acccaggaag tggcagttgc agtgagccga

----->

gacgacacca ctgcactcca gctgggtga cagagggaga| ctctgtctcg aaagaaagaa

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**Supplemental Table. 1**

Sequence of Optineurin. Ubiquitin-binding domain's sequence was shown in red. The arrows indicated 3 colonies of optineurin's sequence after 4 drop out selection. Colony #1 and #2 is exactly same sequence, and colony #3 is 9-bases short than colony#1 and #2.