

Supplementary information

Discovery of a small protein-encoding *cis*-regulatory overlapping gene of the tumor suppressor gene *Scribble* in humans

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Supplementary Table 1. The nucleotide and protein sequences of human *oSCRIB* and *uMKKSI*

No	Name	Sequence (5' to 3')*
1	<i>oSCRIB</i>	<p>ATGCGGACTGAGCCCCGCCCCCGGCCCGAGCCCGCCGAGCGCCGCCGCCGGA GCCCGCGCCGCCACCCGCACCATGCTCAAGTGCATCCCGCTGTGGCGCTGCAAC CGGCACGTGGAGTCGGTGGACAAGCGGCACTGTTTCGCTGCAGGCCGTGCCGGAG GAGATCTACCGCTACAGCCGCAGCCTGGAGGAGCTGCTGCTCGACGCCAACCAGC TGCGCGAGCTGCCCAAGCCTTTTTTCCGGCTGCTGAACTTGCGCAAGCTGGGCCTG AGCGACAACGAGATCCAGCGGTTGCCTCCCGAGGTGGCCAACTTCATGCAGCTGG TGGAGCTGGACGTGTCCCGGAACGATATCCTGA</p> <p>Translation product: MRTEPRPPAPSPPSAAAGARAAHPHHAQVHPAVALQPARGVGGQAALFAAGRAGGD LPLQPQPGGAAARRQPAARAAQAFFPAAELAQAGPERQRDPAVASRGGQLHAAGGA GRVPERYP</p>
2	<i>uMKKSI</i>	<p>ATGAGCCTTCGGAAGTTGTGGAGAGACTACAAAGTTTTGGTTGTTATGGTCCCTTT AGTTGGGCTCATACTTTGGGGTGGTACAGAAATCAAAGCAGCCCTGTTTTCAA ATACCTAAAAACGACGACATTCCTGAGCAAGATAGTCTGGGACTTTCAAATCTC AGAAGAGCCAAATCCAGGGGAAGTAG</p> <p>Translation product: MSLRNLWRDYKVLVVMVPLVGLIHLGWYRIKSSPVFQIPKNDDIPEQDSLGLSNLQK SQIQGK</p>

*Boxes indicate the translational start and stop codons of each protein.

Supplementary Table 2. List of plasmids

No	Name	Sequence (5' to 3')*
1	pEX-A2J2- <i>oSCRIB</i>	<p>AGATATCCATATGTTTACTAGTAACA<u>ATG</u>GGACATCATCATCATCACGATTACGA CATCCCAACGACCGAAAACCTGTATTTTCAGGGCAAGATGAGAACCGAACCTAGACCA CCTGCACCATCCCCACCAAGCGCAGCTGCTGGTGCTAGAGCTGCTCACCCACATCATG CACAAGTGCACCCAGCTGTGGCACTCCAACCAGCAAGAGGTGTCGGCGGGCAAGCCG CCTTGTGTTGCTGCCGGCAGAGCTGGAGGAGATCTTCCACTCCAACCACAACCAGGCGG TGCTGCTGCTCGAAGACAACCAGCAGCAAGGGCTGCTCAAGCTTTCTTCCCAGCTGCT GAGCTGGCTCAAGCTGGCCCTGAGCGTCAACGCGACCCAGCTGTCGCTTCGCGCGGAG GCCAACTGCACGCTGCTGGAGGCGCTGGACGTGTTCCAGAGCGCTACCCA<u>TGA</u>GTCGA CTTTCCCGGGTAACTAACTAAGGATCCTTTGAGCTCGGTACCGATATCAATGCCGTGAG CACAAAAGCGACCATAGTCGGGATTTTACCCGCTTATCTGCGGAAGGTCAATTGGGAAC GCATCTTCCACAAATGGGCTGAGCGCAAAAATGCCGAACGTATCTGGCTGACCTATGC CATTCCGTGGGAACGACACTACTTTTCAATTGGTGCACCTCTCAGTACAATCTGCTCTGA TGCCGCATAGTTAAGCCAGCCCCGACACCCGCCAACACCCCGCTGACGCGCCCTGACGG GCTTGTCTGCTCCCGGCATCCGCTTACAGACAAGCTGTGACCGTCTCCGGAAAATCAA AGGATCTTCTTGAGATCCTTTTTTTGAGCTGCATGTGTCAGAGGTTTTACCCGTCATCA CCGAAACGCGCGAGACGAAAGGGCCTCGTGATACGCCTATTTTTATAGGTTAATGTCA TGATAATAATGGTTTCTTAGACGTCAGGTGGCACTTTTCGGGGAAATGTGCGCGGAAC CCCTATTTGTTATTTTTCTAAATACATTCAAATATGTATCCGCTCATGAGACAATAAC CCTGATAAATGCTTCAATAATATTGAAAAGGAAGAGTATGAGTATTCAACATTTCCG TGTCGCCCTTATCCCTTTTTTGCGGCATTGCTTCTGTTTTGCTCACCCAGAAAC GCTGGTGAAGTAAAGATGCTGAAGATCAGTTGGGTGCACGAGTGGGTTACATCGA ACTGGATCTCAACAGCGGTAAGATCCTTGAGAGTTTTTCGCCCCGAAGAACGTTTTCCA ATGATGAGCACTTTTAAAGTTCTGCTATGTGGCGCGGTATTATCCCGTATTGACGCCG GCAAGAGCAACTCGGTCGCCGCATACACTATTCTCAGAATGACTTGGTTGAGTACTCA CCAGTACAGAAAAGCATCTTACGGATGGCATGACAGTAAGAGAATTATGCAGTGGCTG CCATAACCATGAGTGATAACACTCGGGCAACTTACTTCTGACAACGATCGGAGGACC GAAGGAGCTAACCGCTTTTTTGCACAACATGGGGGATCATGTAACCTGCCTTGATCGTT GGGAACCGGAGCTGAATGAAGCCATACCAAACGACGAGCGTGACACCACGATGCCTG TAGCAATGGCAACAACGTTGCGCAAACCTATTAACTGGCGAACTACTTACTCTAGCTTC CCGGCAACAATTAATAGACTGGATGGAGGCGGATAAAGTTGCAGGACCACTTCTGCGC TCGGCCCTTCCGGCTGGCTGGTTTATTGCTGATAAATCTGGAGCCGGTGAGCGTGGGA GTCGCGGTATCATTGCAGCACTGGGGCCAGATGGTAAGCCCTCCCGTATCGTAGTTAT CTACACGACGGGGAGTCAGGCAACTATGGATGAACGAAATAGACAGATCGCTGAGAT <u>AGGTGCCTCACTG</u>ATTAAGCATTGGTAACTGTCAGACCAAGTTTACTCATATATACTTT AGATTGATTTAAAACCTTCATTTTTAATTTAAAAGGATCTAGGTGAAGATCCTTTTTGAT AATCTCATGACCAAAATCCCTAACGTGAGTTTTTCGTTCCACTGAGCGTCAGACCCCGT AGAAAAGATCAAAGGATCTTCTTGAGATCCTTTTTTCTGCGCGTAATCTGCTGCTTGC AAACAAAAAAACCACCGCTACCAGCGGTGGTTTTGTTGCCGGATCAAGAGCTACCAAC TCTTTTTCCGAAGGTAACCTGCTTACGAGAGCGCAGATACCAAATACTGTTCTTCTAG TGTAGCCGTAGTTAGGCCACCCTTCAAGAACTCTGTAGCACCCGCTACATACCTCGCT CTGCTAATCCTGTTACCAGTGGCTGCTGCCAGTGGCGATAAGTTCGTGTCTTACCGGGTT GGACTCAAGACGATAGTTACCGGATAAGGCGCAGCGGTCCGGGCTGAACGGGGGGTTC GTGCACACAGCCCAGCTTGGAGCGAACGACCTACACCGAACTGAGATACCTACAGCGT GAGCTATGAGAAAGCGCCACGCTTCCCGAAGGGAGAAAGGCGGACAGGTATCCGGTA AGCGGCAGGGTTCGGAACAGGAGAGCGCACGAGGGAGCTTCCAGGGGGAAACGCCTGG TATCTTTATAGTCCTGTGCGGTTTTCGCCACCTCTGACTTGAGCGTCGATTTTTGTGATGC TCGTCAGGGGGGCGGAGCCTATGGAAAAACGCCAGCAACGCGGCCCTTTTTACGGTTCC TGCCTTTTGCTGGCCTTTTGCTCACATGTTCTTCTTCTGCGTTATCCCCTGATTCTGTGG ATAACCGTATTACCGCCTTTGAGTGAGCTGATACCGCTCGCCGACGCCGAACGACCCGA GCGCAGCGAGTCAGTGAGCGAGGAAGCGGAAGAGCAAATAATAAAAAAGCCGATTA ATAATCTGGCTTTTTATATTCTCTGCCAATACGCAAACCGCCTTCCCCGCGCGTTGG CCGATTCATTAATGCAGCTGGCACGACAGGCAAAGACTTCTACGGTTGGGCAATCGAA CGCCACTATTCAGCGCATGACCTGTTTAAAGGCGCATAGCTTTGATCATGCCGGTAGAG CACGTTGGGAAGGACATCGTTGGGCACATCGTGAACATGCCAACATGTTTTGGGCGCA TGAAGGCATTTGGCGTATCCACTGACT</p>

*Boxes indicate the translational start and stop codons of the protein (*oSCRIB*). Underlines indicate the primer annealing sites. Gray highlight indicates the pEX-A2J2 vector sequence.

Supplementary Table 2. List of plasmids (continued)

No	Name	Sequence (5' to 3')*
2	pEX-A2J2- <i>uMKKS1</i>	<p>AGATATCCATATGTTTACTAGTAACA<u>ATG</u>GGACATCATCATCATCACGATTACGA CATCCCAACGACCGAAAACCTGTATTTTCAGGGCAAGATGAGCCTGAGAACTTATGG AGGGACTACAAGGTCTGGTAGTGATGGTCCCGCTCGTGGGCTCATTCACTTGGGAT GGTATCGCATAAAATCATCCCCGTTTTCCAGATCCCAAAAAACGACGACATCCCTGA ACAGGACAGTCTAGGGCTCTAATTTGCAAAAGTCGCAAATCCAAGGTAAG<u>TGA</u>GTC GACTTCCCGGGTAACTAACTAAGGATCCTTTGAGCTCGGTACCGATATCAATGCCGTG AGCACAAAAGCGACCATAGTCGGGATTTTACCCGCTTATCTGCGGAAGGTCATTGGGA ACGCATCTTCCACAAATGGGCTGAGCGCAAAAATGCCGAACGTATCTGGCTGACCTAT GCCATTCCGTGGGAACGACTACTTTTCAATTGGTGCCTCTCAGTACAATCTGCTCT GATGCCGCATAGTTAAGCCAGCCCCGACACCCGCCAACACCCGCTGACGCGCCCTGAC GGGCTTGTCTGCTCCCGGCATCCGCTTACAGACAAGCTGTGACCGTCTCCGGAAAATC AAAGGATCTTCTGAGATCCTTTTTTTGAGCTGCATGTGTCAGAGGTTTTACCCGTCAT CACCGAAACGCGGAGACGAAAGGGCCTCGTGATACGCCTATTTTTATAGGTTAATGT CATGATAATAATGGTTTTCTTAGACGTCAGGTGGCACTTTTCGGGGAAATGTGCGCGGA ACCCCTATTTGTTTATTTTCTAAATACATTCAAATATGTATCCGCTCATGAGACAATA ACCCTGATAAATGCTTCAATAATATTGAAAAGGAAGAGTATGAGTATTCAACATTTTC CGTGTGCGCCCTTATCCCTTTTTTTCGGCATTTTGCCTTCCTGTTTTTGCTCACCCAGAA ACGCTGGTGAAAGTAAAAGATGCTGAAGATCAGTTGGGTGCACGAGTGGGTTACATCG AACTGGATCTCAACAGCGGTAAGATCCTTGAGAGTTTTCGCCCCGAAGAACGTTTTCC AATGATGAGCACTTTTAAAGTTCTGCTATGTGGCGCGGTATTATCCCGTATTGACGCCG GGCAAGAGCAACTCGGTCGCCGCATACACTATTCTCAGAATGACTTGTTGAGTACTC ACCAGTCACAGAAAAGCATCTTACGGATGGCATGACAGTAAGAGAATTATGCAGTGCT GCCATAACCATGAGTGATAAAGTGCAGCAACTTACTTCTGACAACGATCGGAGGAC CGAAGGAGCTAACCGCTTTTTTGCACAACATGGGGGATCATGTAAGTGCCTTGATCG TTGGAAACCGGAGCTGAATGAAGCCATAACCAACGACGAGCGTACACCACGATGCC TGTAGCAATGGCAACAACGTTGCGCAAACTATTAAGTGGCGAAGTACTTACTTAGCT TCCCGCAACAATTAATAGACTGGATGGAGGCGGATAAAGTTGCAGGACCACTTCTGC GCTCGGCCCTTCCGGCTGGCTGGTTATTGCTGATAAATCTGGAGCCGGTGAGCGTGG GAGTCGCGGTATCATTGCAGCACTGGGGCCAGATGGTAAGCCCTCCCGTATCGTAGTT ATCTACACGACGGGGAGTCAGGCAACTATGGATGAACGAAATAGACAGAT<u>CGCTGAG</u> <u>ATAGGTGCCTCACTGATTAAGCATTGGTAACTGTCAGACCAAGTTTACTCATATATACT</u> TTAGATTGATTTAAAACCTTCATTTTTAATTTAAAAGGATCTAGGTGAAGATCCTTTTTG ATAATCTCATGACCAAAAATCCCTAACGTGAGTTTTCGTTCCACTGAGCGTCAGACCCC GTAGAAAAGATCAAAGGATCTTCTTGAGATCCTTTTTTTCTGCGCGTAATCTGCTGCTT GCAAACAAAAAAACCACCGCTACCAGCGGTGGTTTTGTTTCCCGGATCAAGAGCTACCA ACTTTTTTCCGAAGGTAAGTGGCTTACAGCAGAGCGCAGATACCAAATACTGTTCTTCT AGTGTAGCCGTAGTTAGGCCACCACTTCAAGAAGTCTGTAGCACCGCCTACATACCTC GCTCTGCTAATCCTGTTACCAGTGGCTGCTGCCAGTGGCGATAAGTCGTGTCTTACCGG GTTGGACTCAAGACGATAGTTACCGGATAAGGCGCAGCGGTCCGGGCTGAACGGGGGG TTCGTGCACACAGCCCAGCTTGGAGCGAACGACCTACACCGAACTGAGATACCTACAG CGTGAGCTATGAGAAAGCGCCACGCTTCCCGAAGGGAGAAAGGCGGACAGGTATCCG GTAAGCGGCAGGGTCGGAACAGGAGAGCGCACGAGGGAGCTTCCAGGGGGAAACGCC TGGTATCTTTATAGTCCTGTCCGGTTTCGCCACCTCTGACTTGAGCGTCGATTTTTGTGA TGCTCGTCAGGGGGGCGGAGCCTATGGAAAAACGCCAGCAACGCGGCCTTTTTACGGT TCCTGGCCTTTTGCTGGCCTTTGCTCACATGTTCTTTCCTGCGTTATCCCCTGATTCTGT GGATAACCGTATTACCGCCTTTGAGTGAGCTGATACCGCTCGCCGACCCGAACGACC GAGCGCAGCGAGTCAGTGAGCGAGGAAGCGGAAGAGCAAATAATAAAAAAGCCGA TTAATAATCTGGCTTTTTATATTCTCTGCCAATACGCAAACCGCCTTCCCCGCGCGTT GGCCGATTCATTAATGCAGCTGGCACGACAGGCAAGACTTCTACGGTTGGGCAATCG AACGCCACTATTCAGCGCATGACCTGTTAAGGCGCATAGCTTTGATCATGCCGGTAG AGCACGTTGGGAAGGACATCGTTGGGCACATCGTGAACATGCCAACATGTTTTGGGCG CATGAAGGCATTTGGCGTATCCACTGACT</p>

*Boxes indicate the translational start and stop codons of the protein (*uMKKS1*). Underlines indicate the primer annealing sites. Gray highlight indicates the pEX-A2J2 vector sequence.

Supplementary Table 2. List of plasmids (continued)

No	Name	Sequence (5' to 3')*
3	pEX-A2J2-sfGFP	<p>AGATATCCATATGTTTACTAGTAACA<u>ATG</u>TCTAAGGGAGAAGAACTGTTACCGGCGT CGTTCCGATTCTCGTCGAACCTAGACGGCGATGTGAATGGCCATAAGTTCTCTGTGCGA GGAGAAGGGGAGGGAGATGCCACCAACGGTAAACTCACCTGAAATTCATCTGTACG ACGGGGAAGTTACCAGTGCCGTGGCCTACCCTTGTTACTACGTTAACGTACGGGGTGC AATGTTTTTACGCTACCCCGACCACATGAAACGACACGATTTCTTTAAGTCGGCAATG CCGGAGGGCTACGTGCAGGAACGTACGATCTCCTTCAAGGACGACGGAACCTACAAG ACACGCGCGGAGGTCAAGTTCGAAGGTGATACCTTGGTCAACAGGATAGAAGTGAAG GGGATCGATTTCAAGGAGGACGGAACATCCTAGGGCATAAGCTGGAGTACAATTTCA ATAGTCATAACGTTTACATTACAGCAGACAAGCAAAAGAATGGGATTAAGGCCAATTT CAAGATCCGGCATAATGTGGAAGACGGCTCCGTTCAACTAGCGGATCACTATCAACAG AACACACCAATCGGCGACGGACCAGTCTTCTACCAGACAATCATTATCTTAGCACCC AAAGTGTCTGTGCGAAGGACCCGAACGAGAAGAGGGATCACATGGTTTTGTTGGAATT TGTCACGGCAGCCGAATCACTCATGGCATGGATGAATTGTATAAGGGCAGCCACCAC CACCACCACCAAT<u>TGA</u>GTCGACTTTCCCGGGTAACTAACTAAGGATCCTTTGAGCTCGG TACCGATATCAATGCCGTGAGCACAAAAGCGACCATAGTCGGGATTTTACCCGCTTAT CTGCGGAAGGTCATTGGGAACGCATCTTCCACAAATGGGCTGAGCGCAAAAATGCCGA ACGTATCTGGCTGACCTATGCCATTCCGTGGGAACGACACTACTTTTCAATTGGTGCAC TCTCAGTACAATCTGCTCTGATGCCGCATAGTTAAGCCAGCCCGACACCCGCCAACA CCCGCTGACGCGCCCTGACGGGCTTGTCTGCTCCCGGCATCCGCTTACAGACAAGCTGT GACCGTCTCCGAAAATCAAAGGATCTTCTTGAGATCCTTTTTTTGAGCTGCATGTGTC AGAGGTTTTACCGTCATCACCGAAACGCGGAGACGAAAGGGCCTCGTGATACGCCT ATTTTTATAGGTTAATGTCATGATAATAATGGTTTTCTTAGACGTCAGGTGGCACTTTTC GGGAAATGTGCGCGGAACCCCTATTTGTTATTTTTCTAAATACATTCAAATATGTAT CCGTCATGAGACAATAACCCTGATAAATGCTTCAATAATATTGAAAAGGAAGAGTA TGAGATTCAACATTTCCGTGTGCGCCTTATCCCTTTTTTGCGGCATTTTGCCTTCTG TTTTTGCTCACCCAGAAACGCTGGTGAAAGTAAAGATGCTGAAGATCAGTTGGGTGC ACGAGTGGGTTACATCGAACTGGATCTCAACAGCGGTAAGACTCCTTGAGAGTTTTCGC CCCGAAGAACGTTTTCCAATGATGAGCACTTTTAAAGTTCTGCTATGTGGCGCGGTATT ATCCCGTATTGACGCCGGCAAGAGCAACTCGGTGCGCGCATACACTATTCTCAGAAT GACTTGGTTGAGTACTACCAGTACAGAAAAGCATCTTACGGATGGCATGACAGTAA GAGAATTATGCAGTGCTGCCATAACCATGAGTGATAAACTGCGGCCAACTTACTTCT GACAACGATCGGAGGACCGAAGGAGCTAACCGTTTTTTGCACAACATGGGGGATCAT GTAACTCGCCTTGATCGTTGGGAACCGGAGCTGAATGAAGCCATACCAAACGACGAGC GTGACACCACGATGCCTGTAGCAATGGCAACAACGTTGCGCAAATTAAGTGGCGA ACTACTTACTCTAGCTTCCCGGCAACAATTAATAGACTGGATGGAGGCGGATAAAGTT GCAGGACCACTTCTGCGCTCGGCCCTTCCGGCTGGCTGGTTTATTGCTGATAAATCTGG AGCCGGTGAGCGTGGGAGTCGCGGTATCATTGCAGCACTGGGGCCAGATGGTAAGCCC TCCCGTATCGTAGTTATCTACACGACGGGGAGTCAGGCAACTATGGATGAACGAAATA GACAGATCGCTGAGATAGGTGCCTCACTGATTAAGCATTGGTAACTGTCAGACCAAGT TACTCATATATACTTTAGATTGATTTAAAACCTTCATTTTTAATTTAAAAGGATCTAGGT GAAGATCCTTTTTGATAATCTCATGACCAAAATCCCTAACGTGAGTTTTCTGTTCCACT GAGCGTCAGACCCCGTAGAAAAGATCAAAGGATCTTCTTGAGATCCTTTTTTTCTGCGC GTAATCTGCTGCTTGCAAACAAAAAACCACCGCTACCAGCGGTGGTTTTGTTTCCGG ATCAAGAGCTACCAACTTTTTTCCGAAGGTAACCTGGCTTACAGCAGAGCGCAGATACC AAATACTGTTCTTCTAGTGTAGCCGTAGTTAGGCCACCACTTCAAGAACTCTGTAGCAC CGCTACATAACCTCGCTCTGCTAATCCTGTTACCAGTGGCTGCTGCCAGTGGCGATAAG TCGTGTCTTACCGGTTGGACTCAAGACGATAGTTACCAGATAAGGCGCAGCGGTCCG GCTGAACGGGGGTTTCGTGCACACAGCCAGCTTGGAGCGAACGACCTACACCGAAT GAGTACCTACAGCGTGAGCTATGAGAAAAGCGCCACGCTTCCCGAAGGGAGAAAGGC GGACAGGTATCCGGTAAGCGGCAGGGTCGGAACAGGAGAGCGCACGAGGGAGCTTCC AGGGGAAACGCCTGGTATCTTTATAGTCTGTCGGGTTTCGCCACCTCTGACTTGAGC GTCGATTTTTGTGATGCTCGTCAGGGGGGCGGAGCCTATGGAAAAACGCCAGCAACGC GGCCTTTTTACGGTTCCTGGCCTTTTGCTGGCCTTTTGCTCACATGTTCTTTCTGCGTT ATCCCTGATTCTGTGGATAACCGTATTACCGCCTTTGAGTGAGCTGATACCGCTCGCC GCAGCCGAACGACCGAGCGCAGCGAGTCAGTGAGCGAGGAAGCGGAAGAGCAAATA ATAAAAAAGCCGGATTAATAATCTGGCTTTTTATATTCTCTGCCAATACGCAAACCGC CTCTCCCCGCGGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGCAAAGACTTCT ACGGTTGGGCAATCGAACGCCACTATTCAGCGCATGACCTGTTTAAGGCGCATAGCTT TGATCATGCCGGTAGAGCACGTTGGGAAGGACATCGTTGGGCACATCGTGAACATGCC AACATGTTTTGGGCGCATGAAGGCATTTGGCGTATCCACTGACT</p>

*Boxes indicate the translational start and stop codons of the protein (sfGFP). Underlines indicate the primer annealing sites. Gray highlight indicates the pEX-A2J2 vector sequence.

Supplementary Table 2. List of plasmids (continued)

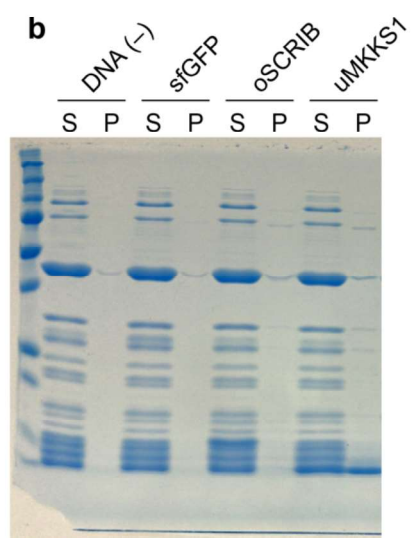
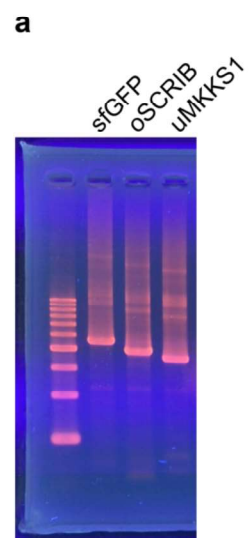
No	Name	Sequence (5' to 3')*
4	pEX-A2J2- <i>oSCRIB-SCRIB-sfGFP</i>	<p>GAATTCGAAATTAATACGACTCACTATAGGGGCGGGCGGACGAGCGGGCGGGACGAGCTGAGCAGGA CCAAGCGGGATGCGGAGCCGCCGCCGCCGCTCCCGCGCTTCTAAGAGTCTGAGACCCGCCGGG CCGCGCCCCCTGCCAGGCCCGCAGTCCGAGCGTTCGAGCGCGGGGCCAGCGCCGCCCGCGG CCGGTCCCGTCCAGTCTCGGGCGGCCGCCGCCCTGCTGCGCCCCCTCCCATGCGCGGGCC<u>ATG</u> <u>CGGACTGAGCCCCGCCGCCGCCGAGCCCGCGAGCGCCGCCGCCGCGGAGCCCGCGCCACC</u> <u>GCACC</u><u>ATGCTCAAGTGCATCCCGCTGTGGCGCTGCAACC</u><u>CGGACGTGGAGTCCGTTGGACAAGCGGCAC</u> <u>TGTTTCGCTGACGGCCGTGCCGGAGGAGATCTACCGCTACAGCCGACGCTGGAGGAGCTGTGCTCGA</u> <u>CGCCAACCAGCTGCGCGAGCTGCCCAAGCCTTTTTCCGGCTGCTGAACCTGCGCAAGCTGGGCTGAG</u> <u>CGACAACGAGATCCAGCGGTTGCTTCCCGAGGTGGCCAACCTTCATGCAGCTGGTGGAGCTGGACGTGT</u> <u>CCCGGAACGATATCC</u><u>TGA</u><u>GGTTCTGCTGGAAGCGCAGCCGGCTCCGGGGAGTTC</u>TCTAAGGGTGAG GAGCTATTCACAGGCGTGGTACCCATCTTGGTAGAGCTGGACGGGGACGTCAACGGTCAAAATTC AGTGCAGGAGAGGGCGAGGGTACGCTACTAACGGCAAGTTAACACTGAAGTTATCTGCACGACAG GCAAGTTGCCCGTTCCTTGGCCAACGCTTGTCACTACCCTGACTTACGGGGTGCAGTGTTCAGTCTG ACCCGGACCATATGAAAAGACACGACTTTTTTAAGTCCGCGATGCCCGAAGGCTACGTTCAAGAGCGG ACAATATCCTTTAAAGACGACGGTACCTACAAGACACGTGCCGAAGTCAAGTTCGAGGGAGATACTTT AGTCAACAGGATCGAACTCAAAGGAATTGACTTCAAAGAGGACGGGAATATCTCGGACATAAACTGG AGTACAACCTTAACTCGACAACGTTTATATCACTGCCGATAAACAGAAAGACGGAATAAAAAGCCAAC TTTAAAATTAGACACAACGTTGAAAGACGGAAGCTGCAGCTCGCAGACCATTATCAACAGAACACCCC CATTGGAGACGGACCAGTGTCTGCCAGATAATCATTATCTCTACCCAGAGTGTGCTGAGCAAGG ATCCAAACGAAAAGAGGGATCATATGGTGTCTTGAAGTTCGTGACCGCTGCAGGGATTACCCACGGC <u>ATGGACGAAC</u>TTATAAGGGCTCACACCACCACCATCACCAT<u>TAG</u>AGGAGCAGGCACCTCCCCAGAC TTGGGGTGGGGGCCCTGCCAGCTCCAGCACCCCTTGCCCCAAGTCTTTAACCTGGGTGTTAGCATT TTAAGAGACCCACAGGAGTTCTGGCTGTGACTAACTGCCACCCAGCCAGCCGAGACCTCGG GAGACTGTAACAGTGATGTTTGTACAACCAAAGACTCTATTTGTGGTTAAGGAGAATAAAGTTGAC TACATTTAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAGCTTCTAGCATAACCCCTTGGGGCCT CTAACGGGTCTTGAGGGGTTTTTGGTGCACATGCCGTGAGCACAAAAGCGACCATAGTCGGGATTTT ACCCGCTTATCTGCGGAAGGTCATTGGGAACGCATCTCCACAAATGGGGTGCAGCGAAAAATGCCGA ACCTATCTGGCTGACCTATGCCATCCGTGGGAACGACACTACTTTCAATTGGTGCACCTCAGTACA ACTGCTCTGATGCCGATAGTTAAGCCAGCCCCGACCCCGCCAACACCCGCTGACCGCCCTGACG GGCTGTCTGCTCCCGGCATCCGCTTACAGACAAGCTGTGACCGTCTCCGGAAAATCAAAGGATCTTCT TGAGATCCTTTTTTGGAGCTGCATGTGTAGAGGTTTCCACCGTCATCACCGAAACGCGGAGACGAAA GGGCCTCGTGATACGCTATTTTTATAGGTTAATGTCATGATAATAATGGTTCTTAGACGTCAGGTGG CACTTTTCGGGGAAATGTGCGCGGAACCCCTATTTGTTATTTTTCTAAATACATTCAAATATGTATCCG CTCATGAGACAATAACCTGATAAATGTTCAATAATATTGAAAAAGGAAGATGAGTATTCAACA TTCCGTGTCGCCCTTATCCCTTTTTTGGGGCATTTTGCCTTCCGTGTTTTGCTCACCCAGAAACGCTGG TGAAAGTAAAAGATGCTGAAGATCAGTTGGGTGCACGAGTGGGTTACATCGAACTGGATCTCAACAGC GGTAAAGATCCTTGAGAGTTTCGCCCGAAGAACGTTTCCAATGATGAGCACTTTAAAGTTCTGCTA TGTGGCGCGGTATTATCCCGTATTGACGCCGGCAAGAGCAACTCGGTCCCGCATACTACTATTCTCAG AATGACTGGTTGAGTACTACCAGTACAGAAAAGCATCTTACGGATGGCATGACAGTAAGAGAATT ATGCAGTGTGCCATAACCATGAGTGATAAACACTGCGGCCAACTTACTTCTGACAACGATCGGAGGAC CGAAGGAGCTAACCGCTTTTTTGCACAACATGGGGGATCATGTAACCTGCCTTGATCGTTGGGAACCGG AGCTGAATGAAGCCATACCAAACGACGAGCGTGACACCACGATGCCTGTAGCAATGGCAACAACGTTG CGAAACTATTAAGTGGCGAACTACTTACTCTAGCTTCCCGGCAACAATTAATAGACTGGATGGAGGC GGATAAAGTTGCAGGACCACTTCTGCGCTCGGCCCTCCGGCTGGCTGGTTTATTGCTGATAAATCTGG AGCCGGTACGCGTGGGAGTGCAGGATCATTGACACTGCGGCCAGATGGTAAGCTCCCGTATCG TAGTTATCTACACGACGGGGAGTCAAGCAACTATGGATGAACGAAATAGACAGATCGCTGAGATAGGT <u>GCCTCACTG</u>ATTAAGCATTGGTAACTGTCAGACCAAGTTACTCATATATACTTTAGATTGATTTAAA CTTCAATTTTAAATTTAAAAGGATCTAGGTGAAGATCCTTTTTGATAATCTCATGACCAAAAATCCCTAAC GTGAGTTTTCGTTCCTGAGCGTACAGCCCCGTAGAAAAGATCAAAGGATCTTCTTGAGATCCTTTTT TTCTGCGGTAATCTGCTGTTGCAACAAAAAACCCGCTACCAGCGTGGTTGTTGTTGGCGGATC AAGAGCTACCAACTCTTTTTCCGAAGGTAAGTGGCTTACGACAGCGCAGATACCAATACTGTTCTTC TAGTGTAGCCGTAGTTAGGCCACCACTTCAAGAAGTCTGTAGCACCGCCTACATACTCGCTCTGCTAA TCCTGTTACCAGTGGCTGCTGCCAGTGGCGATAAGTCTGTCTTACCAGGGTTGGACTCAAGACGATAGT TACCGGATAAAGGCGCAGCGGTCCGGCTGAACGGGGGGTTCGTGCACACAGCCAGCTTGGAGCGAAC GACCTACACCGAACTGAGATACCTACAGCGTGAGCTATGAGAAAAGCGCCACGCTTCCCGAAGGGAGAA AGCCGGACAGGTATCCGGTAAGCGGCAGGGTCGGAACAGGAGAGCGCACAGGGGAGCTTCCAGGGGG AAACGCCTGGTATCTTTATAGTCTGTCCGGTTTCGCCACCTCTGACTTGAGCGTCGATTTTTGTGATGC TCGTCAGGGGGCGGAGCCTATGAAAAACGCCAGCAACGCGCCTTTTACGGTTCCTGGCCTTTTGC TGGCCTTTTGTACATGTTCTTCTGCGTTATCCCTGATTCTGTGGATAACCGTATTACCGCCTTTGA GTGAGCTGATAACCGCTCGCCGACGCCAAGCAGCGAGCGCAGCGAGTCAAGTGCAGGAGGAAGCGGAA GAGCAATAATAAAAAAGCCGATTAATAATCTGGCTTTTTATATTCTGCCAATACGCAAAACCGCC TCTCCCCGCGGTTGGCCGATTCAATTAATGCAGCTGGCACGACAGGCAAAAGACTTCTACGGTTGGGCAA TCGAACGCCACTATTCAGCGCATGACCTGTTAAGGCGCATAGCTTTGATCATGCCGGTAGAGCACGTT GGAAGGACATCGTTGGGCACATCGTGAACATGCCAACATGTTTTGGGCGCATGAAGGCATTTGGCGT ATCCACTGACT</p>

*Boxes indicate the translational start and stop codons of the proteins (*oSCRIB* and *SCRIB-sfGFP*). Green, pink, and yellow highlights correspond to *SCRIB* (C-terminally truncated), flexible linker, and *sfGFP* sequences, respectively. Underlines indicate the primer annealing sites. Gray highlight indicates the pEX-A2J2 vector sequence.

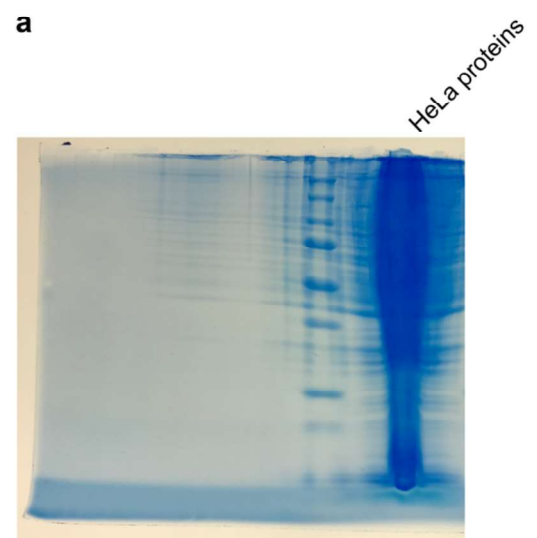
Supplementary Table 3. List of PCR primers

No	Primer name	Primer sequence (5' to 3')
1	Fw1-S	GAAATAATTTTGTTTAACTTTAAGAAGGAGATATACCAATGGGACAT CATCATCATCATCACGATTACG
2	Fw1-G	GAAATAATTTTGTTTAACTTTAAGAAGGAGATATACCAATGTCTAAG GGAGAAGAAGTGTTCACC
3	Fw1-SG1	CATTTTACATTCTACAACACTACATAACTAAGTAGTAACAATGCGGACT GAGCCCCGCCCCCGGCCCG
4	Fw1-SG2	CATTTTACATTCTACAACACTACATAACTAAGTAGTAACAAGGCGGACT GAGCCCCGCCCCCGGCCCG
5	Fw1-SG3	CATTTTACATTCTACAACACTACATAACTAAGTAGTAACACCCCGGACT GAGCCCCGCCCCCGGCCCG
6	Fw1-SG4	CATTTTACATTCTACAACACTACATAACTAAGTAGTAACAATGCTCAAG TGCATCCCGCTGTGGCGCTGC
7	Rv1	CAGTGAGGCACCTATCTCAGCG
8	Fw2-E	CGACTCACTATAGGGAGACCACAACGGTTTCCCTCTAGAAATAATTT TGTTTAACTTTAAGAAGGAGATA
9	Fw3-E	GAAATTAATACGACTCACT
10	Fw2-W	GGTGACACTATAGAAGTATTTTTACAACAATTACCAACAACAACAAC AAACAACAACAACATTACATTTTACATTCTACAACACTACATAACTAAC
11	Fw3-W	GCGTAGCATTTAGGTGACT
12	Rv2	CTGTCTATTTTCGTTTCATCCATAGTTGCCTG

For Fig. 3



For Fig. 4



Supplementary Figure 1. Uncropped and unedited gel images.