

## 6XHis-3XFLAG-PupE

ATGCGTGGATCTCATCATCATCATCATTCTCAAGATCCTGACTACAAAGACCATGACG-  
GTGATTATAAAGATCATGACATCGACTACAAGGATGACGATGACAAGATGAACGCAAAGCAAACCCAAA  
TTATGGGTGGCGGCGGACGTGACGAGGACAACGCCGAGGATTCCGCACAGGCATCTGGACAGGTTCC  
AGATCAACACCCGAAGGTGTGGACAGCTTGCTGGATGAAATCGACGGACTGTTGAAAACAACGCCGA  
GGAATTCGTTTCCTATGTACAAAAGGGTGGCGAATGA

## PafA-GS-linker

ATGAGTACCGTGGAATCCGCATTGACCCGCAGGATCATGGGCATTGAAACGGAGTATGG-  
CCTCACCTTTGTTGATGGTGATTCCAAAAAGCTTCGCCCAGATGAGATAGCTCGAAGGATGTTTCGTC  
CCATCGTGGAGAAATATTCCAGCTCTAATATCTTCATACCCAATGGTTCGCCGTTGTATCTTGATGTGG  
GTTCCACCCGGAGTACGCCACCGCCGAGTGTGATAATTTGACCCAGCTGATCAATTTTAAAAAGCT  
GGCGATGTTATTGCAGATCGCATGGCTGTAGATGCCGAAGAGTCGCTGGCGAAAGAAGACATTGCTG  
GGCAGGTGTACCTGTTTAAAAACAATGTCGATTCCGTGGGCAATTCTTATGGCTGCCACGAAAACACTAC  
CTTGTGGGTGCGTCCATGCCGTTGAAGGCGTTGGGTAAAAGGCTGATGCCGTTTCTGATTACCCGCC  
AGCTCATCTGCGGCGCCGGCAGGATCCATCACCCAATCCTTTGGATAAAGGCGAATCCTTCCCCTT  
GGGCTACTGCATATCCAGCGCTCTGACCACGTGTGGGAGGGCGTATCAAGTGCCACCAGTAGATCA  
CGCCCCATTATCAACACCCGTGATGAGCCACATGCGGATTCCATTCTTACCGCAGGCTGCACGTGAT  
TGTGGGTGATGCCAACATGGCAGAGCCAGCATCGCGTTGAAGGTGCGCTCCACGTTGCTGGTTCT  
GGAAATGATTGAGGCAGATTTTCGGTTTGCCAGCTTAGAGCTTGCCAATGATATTGCCTCAATTAGGG  
AAATCTCCCGCGATGCAACAGGATCCACACTGTTGTCCCTGAAAGATGGCACCACCATGACTGCCTT  
GCAGATCCAGCAGGTGGTCTTTGAGCATGCCTCGAAGTGGTTGGAGCAGCGCCCCGAACCAGAATT  
TTCTGGCACCTCCAACACAGAGATGGCCCGCGTGCTGGATCTGTGGGGTTCGCATGTTGAAAGCGATT  
GAGTCCGGTGATTTTCAGCGAAGTGGATACAGAAATTGACTGGGTGATCAAAAAGAAGCTCATTGATCG  
TTTCATTTCAGCGCGGCAACCTTGGGTTGGATGATCCAAAACCTTGCCCAAGTGGACTTGACTTATCAG  
ATATTAGGCCAGGTAGAGGCCTATTTAGCGTGCTGCAAAGCCGCGGCATGATCAAACGGTGGACTACT  
GATGAGGCGATTTTAGCTGCGGTGGATACCGCTCCTGATACAACACGTGCTCATTTCGCGGGGCGAA  
TCCTTAAAGCGGCGGATACTCTGGGAGTACCTGTGACTGTGATTGGATGCGTCACAAGGTCAACCG  
ACCGGAGCCACAATCGGTGGAATTGGGGGATCCTTTTTCCGCAGTGAATTCCGAGGTTGATCAGTTG  
ATTGAGTATATGACCGTTCATGCGGAGAGCTATCGCAGTGGAGGAGGATCTGGAGGAGGATCTGGAG  
GAGGATCTGGAGGAGGATCT

### Fig. S2. Sequence of 6XHis-3XFLAG-PupE and PafA-GS-linker.

6xHis-3xFLAG is fused to the N terminus of full-length Pup (pink). The 48bp GS-linker (black) is fused to the C terminus of PafA (blue).