Supplementary Material

Supplementary Figure

A

Ank^GAG^1D4_NC-NC

|·6XHis-tag·|·· N-cap ·····························|
MRGSHHHHHHGSAAADLGKKLLEAARAGQDDEVRLLLEHGADVNAR
|································· 1st repeat ····································|
DSIGSTPLHLAAYYGHLEIVRLLLEHGADVNAR
|································· 2nd repeat ····································|
DSTGTTPLHYAARLGHLEIVRLLLEHGADVNAR
|································· 3rd repeat ····································|
DAMGWTPLHLAAKKGHLEIVRLLLKHGADVNAN
|······················ C-cap ····························||············· Flexible Linker ···········|
DHFGKTAFDISIDNGNEDLAEILLQGGGGSGGGGSGGGGSGGGGSTS
|····························· N-cap ······························|
DLGKKLLEAARAGQDDEVRLLLEHGADVNAR
|····························· 1st repeat ······························|
DSIGSTPLHLAAYYGHLEIVRLLLEHGADVNAR
|····························· 2nd repeat ······························|
DSTGTTPLHYAARLGHLEIVRLLLEHGADVNAR
|····························· 3rd repeat ······························|
DAMGWTPLHLAAKKGHLETVRLLLKHGADVDAN
|························· C-cap ·······························|
DHFGKTAFDISIDNGNEDLAEILQSLIS

B

Ank^GAG^1D4_NC-CN

|·6XHis-tag·|·· N-cap ·······························|
MRGSHHHHHHGSAAADLGKKLLEAARAGQDDEVRLLLEHGADVNAR
|································ 1st repeat ··································|
DSIGSTPLHLAAYYGHLEIVRLLLEHGADVNAR
|································ 2nd repeat ··································|
DSTGTTPLHYAARLGHLEIVRLLLEHGADVNAR
|································ 3rd repeat ··································|
DAMGWTPLHLAAKKGHLEIVRLLLKHGADVNAN
|····················· C-cap ····························||············· Flexible Linker ············|
DHFGKTAFDISIDNGNEDLAEILLQGGGGSGGGGSGGGGSGGGGSTS
|······················ C-cap ·····················|
LIEALDENGNDISIDFATKGFHD
|···························· 1st repeat ···························|
NANVDAGHKLLLRVIELHGKKAALHLPTWGMAD
|···························· 2nd repeat ···························|
RANVDAGHELLLRVIELHGLRAAYHLPTTGTSD
|···························· 3rd repeat ···························|
RANVDAGHELLLRVIELHGYYAALHLPTSGISD
|···························· N-cap ···························|
RANVDAGHELLLRVEDDQGARAAELLKKGLD

Figure S1. Amino acid sequences of dimeric Ank^GAG^1D4. The design of dimer platforms featured the different orientations of monomeric Ank^GAG^1D4, consisting of three repetitive domains (blue) connected by a flexible linker (green) and flanked by N- and C-terminal capping repeats (red). (A) Ank^GAG^1D4_NC-NC, the C-terminus of the Ank^GAG^1D4 module is connected to the N-terminus of the

second module. (B) Ank^{GAG}1D4$_{NC-CN}$, the C-terminus of the Ank^{GAG}1D4 module is connected to the C-terminus of the second module.