

Table S2. Final screening results of E6 constructs for NMR spectroscopy.

Construct	Monodispersity	HSQC	Long-term stability
51Z2	Passed	Passed	Passed
26Z2	Passed	Passed	Failed
18Z2	Passed	Failed	
45Z2	Passed	Failed	
16Z2	Failed		
31Z2	Failed		
97Z2	Failed		

Purified, soluble E6 constructs (compare Table S1) were screened for monodispersity by gel-filtration and dynamic light scattering. Monodisperse constructs always behaved as monomers. For those constructs, $[^1\text{H},^{15}\text{N}]$ -HSQC were recorded and assessed. This test was considered as passed when the number of amino acids in the construct was matching with the number of observable amide resonances and the resonances in turn exhibited similar peak intensities. Long-term stability was considered as passed when no spectral changes occurred after two weeks post acquisition of the first $[^1\text{H},^{15}\text{N}]$ -HSQC.