**Table S1: Nup-mEGFP Transfected Fusion Proteins**

Size of mEGFP Deletion: Number of amino acids deleted from the amino terminus of mEGFP.

Net Linker Size: Number of amino acids in linker minus the deletions from Nup and mEGFP.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Construct Name** | **Nup** | **Position of mEGFP within Nup** | **Size of mEGFP Deletion**  **(AAs)** | **Net Linker Size**  **(AAs)** | **Amino Acid Linker Sequence**  **Nup Sequence in Blue**  **mEGFP Sequence in Green** | **Figures** |
| Nup133\_mEGFP(-8a)\* | Nup133 | Carboxyl-Terminus -2 | 6 | **- 8** | EYYVQGELFT | Fig. 2A;  Fig. 3A |
| Nup133\_mEGFP(-8b) | Nup133 | Carboxyl-Terminus -3 | 5 | **- 8** | EYYVQEELFT | Fig. 2A;  Fig. S3A |
| Nup133\_mEGFP(-9a) | Nup133 | Carboxyl-Terminus -3 | 6 | **- 9** | EYYVQELFT | Fig. 2A;  Fig. S3B |
| Nup133\_mEGFP(-9b) | Nup133 | Carboxyl-Terminus -4 | 5 | **- 9** | EYYVEELFT | Fig. 2A;  Fig. S3C |
| Nup93\_mEGFP(-5)\*\* | Nup93 | Carboxyl -Terminus | 5 | **-5** | EVLMNEELFT | Fig. 2B;  Fig. 3B |
| Nup93\_mEGFP(-6) | Nup93 | Carboxyl -Terminus | 6 | **-6** | EVLMNELFT | Fig. 2B;  Fig. S3D |
| Nup58\_mEGFP(-6) | Nup58 | 412 | 6 | **-6** | RKMFLGELFT | Fig. 2C;  Fig. S3E |
| Nup58\_mEGFP(-7) | Nup58 | 410 | 5 | **-7** | RKMFEELFT | Fig. 2C;  Fig. S3F |
| Nup58\_mEGFP(-8)\*\*\* | Nup58 | 409 | 5 | **-8** | RKMEELFT | Fig. 2C;  Fig. 3C |
| Nup54-mEGFP494(0)\*\*\*\* | Nup54 | 494AA + 5AA rigid | 5 | **0** | DIKLVAEAAAEELFT | Fig. 1F;  Fig. 3D |
| Nup54-mEGFP494(1) | Nup54 | 494AA + 6AA rigid | 5 | **1** | DIKLVAEAAAKEELFT | Fig. 1F;  Fig. S3G |
| Nup54-mEGFP494(2) | Nup54 | 494AA + 7AA rigid | 5 | **2** | DIKLVAEAAAKEEELFT | Fig. 1F;  Fig. S3H |
| Nup54-mEGFP494  (flex0) | Nup54 | 494AA + 5AA flex | 5 | **0** | DIKLVGGGGSEELFT | Fig. 1G |
| Nup54-mEGFP494  (flex1) | Nup54 | 494AA + 6AA flex | 5 | **1** | DIKLVGGGGSSEELFT | Fig. 1G |
| Nup54-mEGFP494  (flex2) | Nup54 | 494AA + 7AA flex | 5 | **2** | DIKLVGGGGSSGEELFT | Fig. 1G |
| Nup54\_mEGFP494(-4) | Nup54 | 494 | 4 | **-4** | DIKLVGEELFT | Fig. 2D |
| Nup54\_mEGFP494(-5) | Nup54 | 494 | 5 | **-5** | DIKLVEELFT | Fig. 2D |
| Nup54\_mEGFP494(-6) | Nup54 | 494 | 6 | **-6** | DIKLVELFT | Fig. 2D |
| Nup54\_mEGFP510(-4)\*\*\*\*\* | Nup54 | 510 | 4 | **-4** | GGVFSGEELFT | Fig. 2E;  Fig. 3E |
| Nup54\_mEGFP510(-5) | Nup54 | 510 | 5 | **-5** | GGVFSEELFT | Fig. 2E |
| Nup54\_mEGFP510(-6) | Nup54 | 510 | 6 | **-6** | GGVFSELFT | Fig. 2E |

\* This construct is the Nup133\_mEGFP construct used in the transient transfection starvation experiment in Figure 3.

\*\* This construct is the Nup93\_mEGFP construct used in the transient transfection starvation experiment in Figure 3.

\*\*\* This construct is the Nup58\_mEGFP construct used in the transient transfection starvation experiment in Figure 3.

\*\*\*\* This construct is the Nup54\_mEGFP494 construct used in the transient transfection starvation experiment in Figure 3.

\*\*\*\* This construct is the Nup54\_mEGFP510 construct used in the transient transfection starvation experiment in Figure 3.