

Supplemental

**Table 1. DNA-PKcs kinase inhibition leads to an increase in telomere fusions only in the presence of Ligase IV**

Cell Line (MEFs)	NU7026 Concentration	Cells Scored	Telomere Fusions	Telomere Fusions per cell
p53-/-	0 µM	10	0	0.0
	55 µM	10	16	1.6
p53-/-, LigIV-/-	0 µM	10	0	0.0
	55 µM	10	2	0.2