that the HLD binds single-stranded (ss) DNA in such a way so as to promote the dissociation of ssDNA stabilizing proteins and the recognition and annealing of complementary

(DSB) is regarded as the most lethal and b
significant type of damage to cells[1-3]. DNA damage, such as DSB, due to increased e
ionizing radiation during space expeditions beyond low Earth orbit has been identified a
most significant risk to astronaut health[4], potentially manifested as radiation sickne

Aim 2. We designed and purified constructs of the HLD and its close relative, Hel308, in which we swapped the larger separation wedge of Hel308 with the equivalent, stunted wedge of the HLD. We then performed a molecular beacon-based helicase assay (see graphic below) to assess the strand separation activity of the HLD, Hel308, and the two chimeric proteins consisting of the HLD with the Hel308 wedge ("HLD(308)") and Hel308 with the HLD wedge ("308(HLD)"). We observed that 308(HLD) had reduced activity compared to Hel308. Amazingly, HLD(308)

References

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