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Dear Administrator Bolden, NASA Headquarters, Public Communications, Public Relations, and NASA Office of Inspector General:

I stand behind NASA's mission. However, the use of live animals in space radiation tests is a major leap backward for humankind. Please do not subject squirrel monkeys to high-energy gamma-ray radiation to assess human response to long-term space voyages.

I agree that space radiation may endanger astronauts traveling far distances, such as a trip to Mars. But animal experiments generate misleading results. Physiological, anatomical, and psychological variations

between species make accurate extrapolation to humans unlikely. And while primates and humans share genetic likeness, their disease process and treatment differ tremendously. It is precarious to base "neurobehavioral effects of radiation on humans" upon non-predictive monkey tests.

I encourage NASA to continue utilizing animal-free technology, such as in vitro methods with cellular components of human derivation. As you know, modern bioengineers have devised models with blood vessels and organ characteristics that better imitate human tissue function and design. A March 2009 Biotechnology and Bioengineering report details these 3D cellular systems derived from "building blocks" of active human cells.

Irradiating monkeys calls for experimenters to repeatedly blast restrained animals with gamma rays comparable to three years in space. Once tests conclude at Brookhaven National Laboratory in New York, the monkeys spend their lives as test subjects in a Harvard Medical School project.

Renowned primatologist Dr. Jane Goodall has shown that primates form social unions and experience complex emotions. Certainly, these sentient creatures experience pain and loneliness. I respectfully ask Administrator Bolden and his NASA colleagues to end this pointless cruelty.

Thank you,