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The Moon as a Benchmark for Contamination and Life Detection Equipment.

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Both the earth and Venus can align with the sun and the moon so that, as with a comet tail, dust, atoms and molecules could be transported to the moon. The same phenomenon occurs at comets encounters and even comets may crash into the moon. A study of these particles and their stability could provide useful observational information on the possibility of transporting large molecules in the solar system and would allow quantifying the probability that Mars could already have been reached by life related molecules originating from the earth. Existing observations of surviving microorganisms in the Surveyor Lander and a possible microfossil found in the LUNA 16 sample seem to show that these speculations could be realistic.

It is thus proposed to test life detecting equipment designed for Mars on the moon in order to fulfill three purposes, first, to perform a blank test measurement as the moon is now accepted as sterile, second, to assess the degree of contamination, especially in presence of a manned mission and third to check if any life transported from the earth is measurable.