UV-resistant microbes isolated from the boundary of stratosphere and troposphere

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Dust samples were collected on filters by passing the air suctioned with a vacuum pump loaded on an aircraft. Samples were collected from atmosphere at altitudes 3 to 12 km. The filters were placed on medium plates and incubated at 30oC. Several colonies of microbes were recovered from the filters and were analyzed. Molecular biological analysis revealed that two of the colonies were related to the genus Deinococcus and showed extremely high UV-resistance. The other colonies also showed high UV-resistance. The results suggested high frequency of UV-resistant microbes surviving at high atmosphere. It implies that microbes must be UV-resistant, if some life forms might have migrated between planets.