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Abstract title:	Microgravicrogravity alters the homeostasis of human immortalized keratinocytes
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The creation of the Permanent Space Stations, has highlighted some harmful effects of the absence of weight on human health, since some physiological systems can alter temporarily or permanently. Technology allowed the creation of machines able to simulate on earth the reduction of gravity (microgravity), to investigate this condition on organs and tissues.

Currently, the knowledge about the effects of microgravity on human skin, the first and most important barrier involved in homeostasis and defense of the organism, has been little investigated. So we decided to study the effects of microgravity on human keratinocytes.

They were placed on a Random Positioning Machine (RPM), inside a humidified incubator (5% CO₂ at 37 °C) for increasing times. Treated keratinocytes were distinguished by a set of core features associated with senescence cell damage that become more evident depending on the duration of the test . In particular, microgravity affects cells proliferation and morphology and induces the secretion of cytokines, (i.e. IL1 α , IL 6 and IL8), that are a part of the senescence-associated secretory phenotype (SASP). Moreover, electrophysiological approach shows the ability of microgravity to decrease total membrane current.

In conclusion, our work suggests an effect of microgravity on keratinocytes that deserves to be investigated.

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