

Name:

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Title of project:

Immunity against infections in Arctic region compared to Central Europe region.

Summary:

It is common knowledge that exposure to low temperatures increases the risk of respiratory tract infections. In winter months people get cold more often. As a result, the weakened immune system can cause an increased susceptibility to infections. One of the mechanisms protecting us from infections are defensive proteins, also referred to as natural antibiotics (defensins and cathelicidins).

Hypothesis: People living in certain regions are accustomed to certain temperatures. When the temperature falls in winter months, people fall ill more often because they are not used to lower temperatures. Such vulnerability to infections is probably due to the impairment of the immune system. The hypothesis that people travelling to cold regions have a lowered production of defensive proteins will be verified.

Test Method: Collecting swabs from humans and animals noses and/or oral cavities and analysing the concentration of proteins in at least three time points - before travelling to the Arctic region, right after arriving, and after one week spent in the Arctic region