



**Karolinska
Institutet**

Master project on the role of the nervous system in innate inflammation against viruses

We are looking for a highly motivated masters student for an ongoing project focused on the role of the peripheral nervous system in the inflammatory responses against viruses and bacteria in the airways

The airway acts as the first line of defence against invading airborne pathogens. Airway neurons respond to irritants and inflammatory mediators and release neuropeptides. Airway epithelial cells express receptors that recognise pathogens (TLRs), which are part of the innate immune system and induce cytokines. We have recently shown that viruses trigger the release of neuropeptides from nerves, which then affect the expression of TLRs on epithelial cells. However, little more is known about the interaction between neurons and epithelial cells in terms of innate immune responses.

To investigate this, epithelial cells from healthy subjects will be cultured and stimulated with 1) viral particles or 2) neuropeptides. The expression of 1) neuropeptides or 2) TLRs will be assessed. Examples of methods used in this project including 1) epithelial cell culture, 2) flow cytometry, 3) ELISA and 4) immunohistochemistry.

The applicant should hold a bachelor's degree in biomedical science, or similar. To express your interest, please send a CV and cover letter to olivia.jarsson@ki.se

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