

**From:** [Faculty Description of Research Project](#)  
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**Subject:** New submission from Faculty Description of Research Project  
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**Project title:**

Investigating expression of claudin-1 in cutaneous squamous cell carcinoma

**Faculty mentor name, email, department and phone number**

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**Research Project Description**

In our laboratory we are interested in understanding the role of claudin-1, a tight junction protein, in human epidermis. Claudin-1 is the most abundant claudin in the epidermis and its dysregulation has been noted in several conditions (e.g AD, psoriasis, non-melanoma skin cancer). Claudin-1 has been demonstrated to be involved in tumorigenesis and tumor progression in various types of solid tumors. However, still little is known of its possible involvement in non-melanoma skin cancer. In the present study, we are aiming to investigate the expression of claudin-1 in cutaneous squamous cell carcinoma and its correlation with tumor size, histopathologic grading or the appearance of distant metastases. Claudin-1 protein expression in cutaneous squamous cervical cancer tissues will be assessed by immunohistochemistry. The student will be involved in all the aspect of the study, including immunostaining, staining scoring and collection of clinical relevant data (chart review) and data analysis. Student will also be requested to perform extensive review of literature on this topic and will contribute to writing a final manuscript on the project.

Data from this pilot will be critical for future funding applications. Funding from this study will be provided by PI startup funding.

Claudin-1 expression in cervical cancer. *Mol Clin Oncol.* 2017 Nov;7(5):880-884. doi: 10.3892/mco.2017.1391.

Increased expressions of claudin-1 and claudin-7 during the progression of cervical neoplasia. *Gynecol Oncol.* 2005 Apr;97(1):53-9.

Expression of claudin-1 and its relationship with lymphatic microvessel generation in hypopharyngeal squamous cell carcinoma. *Genet Mol Res.* 2015 Oct 2;14(4):11814-26

Epidermal tight junctions in health and disease. *Tissue Barriers.* 2015 Apr 3;3(1-2):e974451