

## Report of UHH-KU Joint Research Project

### Section 1

<b>Project title:</b>		Elucidation of clinicopathological and molecular features of "tuft cell-like" breast cancer
<b>Project coordinator (KU) Name Position Faculty, department</b>		Yosuke Yamada Lecturer Diagnostic Pathology
<b>Project coordinator (UHH) Name Position Faculty, department</b>		Guido Sauter Professor and Chairnan Institute of Pathology
<b>Period of project</b>		From: 2021/09 To: 2022/03 (but not completed yet)
<b>Project location</b>		KU: <input checked="" type="checkbox"/> UHH: <input type="checkbox"/> Other:
<b>No. of participants</b>	<b>For events<sup>*1</sup></b>	[KU] Faculty members: 1      Students:      Others: [UHH] Faculty members: 2      Students:      Others: Others: Alexander Marx, Medical Faculty Manheim.  <small>*A participant list can be attached instead of completing the above section. The list should include the details above.</small>
	<b>For other exchange activities (such as researcher visits and online meetings)<sup>*2</sup></b>	[KU] Faculty members:      Students:      Others: [UHH] Faculty members:      Students:      Others: Others:
<b>URL at which project outcomes can be viewed (e.g. workshop notifications/programs/reports, evidence of academic papers published or otherwise made available, etc.)</b>		We are currently writing a paper; it has not been submitted yet.
<b>Photographs with captions</b>		Please submit digital files (such as JPEG or GIF files) of the photographs used in your report as attachments. The size of each image should be approx. 4MB, so that it can be used for printed materials. Please ensure that none of the photographs submitted will cause any issues relating to portrait rights.

\*1 Please enter the number of participants for each event.

\*2 Please count each individual participant once only, even if they participate multiple times.

## Section 2

### **Summary of the project (approx. 200 words)**

\*KU project leaders are required to submit a summary of the project in Japanese in addition to the English summary (approx. 400 characters).

本研究において申請者は、特殊な上皮細胞として知られる tuft 細胞に類似した発現プロファイルを示す乳がん (tuft 細胞性乳がん) の分子生物学的、病理学的、臨床的特徴を探索した。結果として、tuft 細胞性乳がんは全乳がんの 1%未満に留まるものの、ほぼ全例がホルモン受容体陰性/HER2 陰性のトリプルネガティブ乳がんの像を示し、予後不良な一群を形成することを見出した。更に、パブリックデータを再解析することで、正常乳腺に tuft 細胞が存在する可能性を明らかにした。

Our previous work has begun to reveal the important of cancer subtypes affecting epithelial tuft cells that underpin some of the heterogeneity in cancer types. In this study, we explore this in detail for breast cancer using immunohistochemistry and bioinformatic analysis and provide important evidence for the existence of tuft cells in healthy breast tissue and for the categorization of tuft cell cancer as part of triple-negative basal subtypes of breast cancer with poor prognosis.