**Poster Approval**

**Please select one of the following:**
I affirm that my poster submission has been reviewed and approved by my PI or supervisor.

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**Title**
Integrative analysis of the rare endocrine cancers using multi-omics data

**Abstract**
Endocrine cancers, including thyroid, adrenal, pituitary, and endocrine pancreatic cancers, are rare and understudied due to limited biospecimens and genomic data. We employed multi-omics approaches—RNA sequencing, whole-exome sequencing, and whole-genome sequencing—to elucidate molecular signatures and regulatory pathways in these cancers. We identified genes specific to various endocrine cancers, such as GNRHR, NPTX2, TAAR1, SLC6A5, and OPRM1. Co-expression network analysis revealed distinct neuronal pathways associated with cancer progression. Integrating protein-protein interaction and multi-omic aberrant gene interaction networks, we discovered pathways involving noradrenaline biosynthesis in pheochromocytomas, calcitonin regulation in medullary thyroid carcinoma, cholesterol biosynthesis in adrenocortical carcinoma, and the BRCA1-associated genome surveillance complex in papillary thyroid carcinoma. Our comprehensive multi-omic analysis offers novel insights into candidate therapeutic targets for these rare endocrine cancers.

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