**Poster Approval**

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

**Presenter Information**

**First Name**  
Vidhur  
  
**Last Name**  
Daulatabad  
  
**IC**  
[NCI](https://researchfestival.nih.gov/taxonomy/term/52)  
  
**Email**  
[vidhur.daulatabad@nih.gov](mailto:vidhur.daulatabad@nih.gov)

**Poster Information**

**Scientific Focus Area**  
[Computational Biology](https://researchfestival.nih.gov/taxonomy/term/7)  
  
**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.

**Authors**

**First Author**

**First and Middle Initial**  
SV  
  
**Last Name**  
Daulatabad

**Second Author**

**First and Middle Initial**  
A  
  
**Last Name**  
Jain

**Third Author**

**First and Middle Initial**  
D  
  
**Last Name**  
Nousome

**Fourth Author**

**First and Middle Initial**  
M  
  
**Last Name**  
Tandon

**Fifth Author**

**First and Middle Initial**  
D  
  
**Last Name**  
Varghese

**Sixth Author**

**First and Middle Initial**  
K  
  
**Last Name**  
Pendo

**Seventh Author**

**First and Middle Initial**  
MFW  
  
**Last Name**  
Malone

**Eighth Author**

**First and Middle Initial**  
J  
  
**Last Name**  
del Rivero

**Ninth Author**

**First and Middle Initial**  
BC  
  
**Last Name**  
Widemann

**Tenth Author**

**First and Middle Initial**  
KM  
  
**Last Name**  
Reilly