A Real-World Study of Claudin 18.2 (CLDN18.2) Association With Molecular Subtypes, Mutations/Biomarkers, Immune Landscapes, and Gene Signatures and Prognostic Value in Pancreatic Ductal Adenocarcinoma (PDAC)

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AIM

To evaluate the correlation between CLDN18 protein and CLDN18.2 RNA; explore associations between CLDN18.2 RNA levels and molecular subtypes, common mutations in PDAC, other biomarkers, immune landscapes, and established gene signatures; and investigate the prognostic role of CLDN18.2

STUDY DESIGN

Data were collected from a large, real-world clinical genomic cohort of patients with PDAC with initial diagnosis dates between 2006 and 2024

Analyses conducted:

- Correlation of CLDN18 protein and CLDN18.2 RNA
- Molecular and cellular characterization by CLDN18.2 RNA level
- Overall survival by CLDN18.2 RNA level

KEY TAKEAWAYS

CLDN18 protein and CLDN18.2 RNA showed a strong correlation in 60 matched samples

Data from 713 patients with PDAC were analyzed by CLDN18.2 RNA level

A multivariable overall survival analysis with CLDN18.2 RNA level and basal-like or classical molecular subtype as covariates showed that CLDN18.2 was not independently associated with overall survival

This study provides critical insight into the molecular and cellular context of CLDN18.2 expression in PDAC and identifies potential biological and clinical variables that may affect response to CLDN18.2-targeted therapies

Real-world data suggest that CLDN18.2 is not an independent factor associated with prognosis (overall survival) in PDAC

CLDN18, claudin 18; CLDN18.2, claudin 18.2; PDAC, pancreatic ductal adenocarcinoma.