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Summary

EXPLORING THE POTENTIAL OF METFORMIN AND CELECOXIB AS NEW ADJUVANT THERAPY FOR COLORECTAL CANCER

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Colorectal

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A gene expression analysis study investigated metformin and celecoxib combination therapy as potential adjuvant treatment for colorectal cancer, identifying ID1 as a commonly expressed gene in response to both drugs.

KEY POINTS

- Gene expression analysis of metformin and celecoxib datasets (GSE11237 and GSE67342) identified ID1 as the only commonly expressed gene in both, with network analysis revealing associated genes MYOD1, SMAD4, SMAD9, SMAD5, and TCF3 in the TGFB pathway.
- The study protocol includes MTT assay, apoptosis, and cell cycle analysis on CaCO2 and SW48 cell lines, with real-time PCR planned to assess expression of ID1 and SMAD4 genes.
- Both metformin and celecoxib are established drugs with known anti-cancer properties, making them candidates for cost-effective drug repurposing in colorectal cancer treatment.
- The authors suggest their findings indicate potential for metformin-celecoxib combination as adjuvant therapy and provide basis for understanding molecular mechanisms, though in vitro validation assays are still to be performed.

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