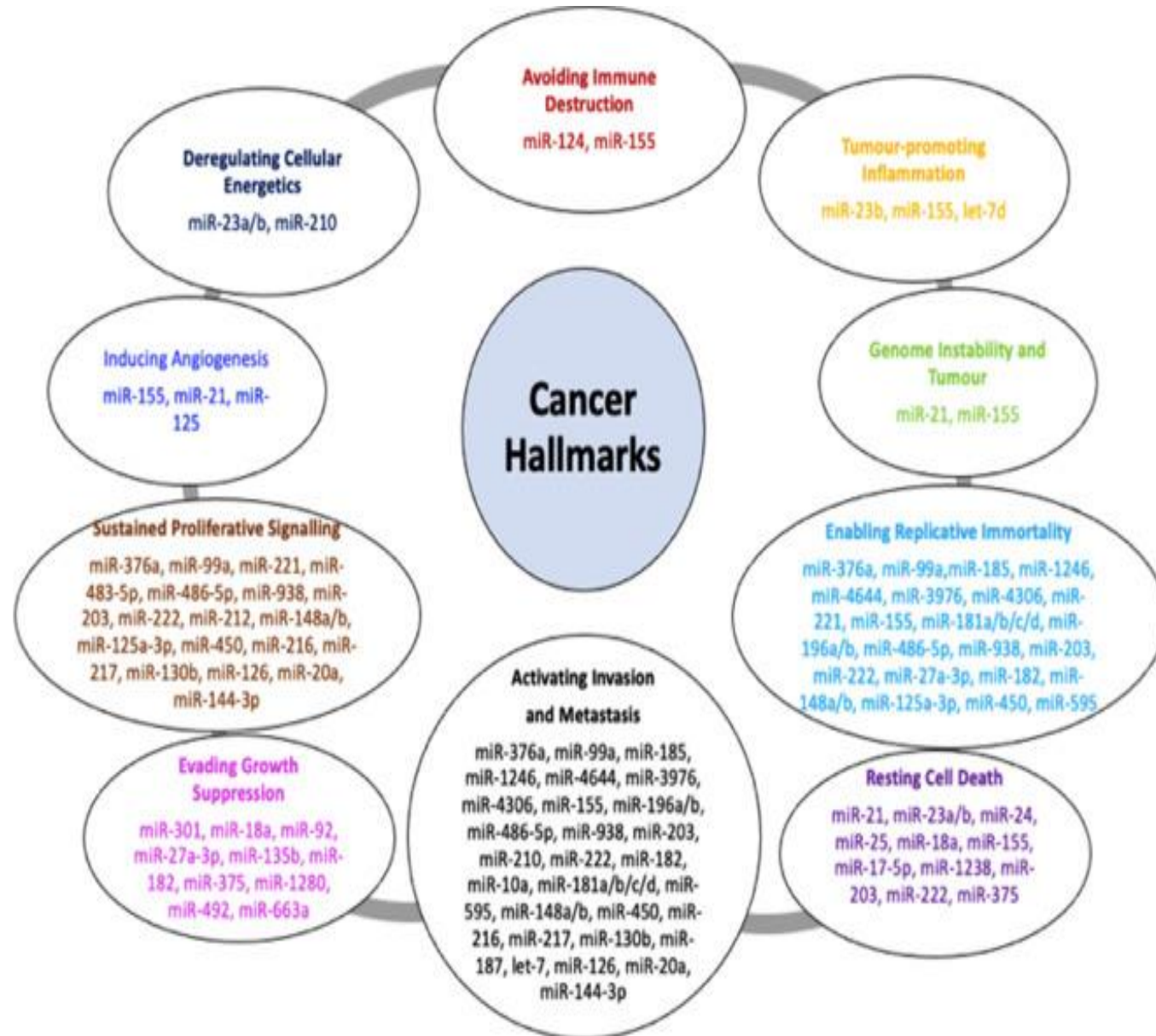


***Why would you choose
microRNAs as biomarkers?***

Dr Pinar Uysal-Onganer

p.onganer@westminster.ac.uk

Involvement of miRs in PDAC progression



Project 1: a. What are the roles of miRs in PDAC? b. Can we use miRs as biomarkers to detect PDAC?



Non-coding RNAs in pancreatic ductal adenocarcinoma: New approaches for better diagnosis and therapy

Maria Mortoglou^a, Zoey Kathleen Tabin^a, E. Damla Arisan^b, Hemant M Kocher^c, Pinar Uysal-Onganer^{a,*}



Review

MicroRNA-Regulated Signaling Pathways: Potential Biomarkers for Pancreatic Ductal Adenocarcinoma

International Journal of
Molecular Sciences



Article

Peptidylarginine Deiminase Inhibitor Application, Using Cl-Amidine, PAD2, PAD3 and PAD4 Isozyme-Specific Inhibitors in Pancreatic Cancer Cells, Reveals Roles for PAD2 and PAD3 in Cancer Invasion and Modulation of Extracellular Vesicle Signatures

Pinar Uysal-Onganer^{1,*}, Stefania D'Alessio², Maria Mortoglou¹, Igor Kraev³ and Sigrun Lange^{2,*}

International Journal of
Molecular Sciences



Article

microRNA-21 Regulates Stemness in Pancreatic Ductal Adenocarcinoma Cells

Maria Mortoglou¹, Francesc Miralles^{2,3}, Elif Damla Arisan⁴, Alwyn Dart³, Stipo Jurcevic⁵, Sigrun Lange⁶ and Pinar Uysal-Onganer^{1,*}

Article

AMPK Is the Crucial Target for the CDK4/6 Inhibitors Mediated Therapeutic Responses in PANC-1 and MIA PaCa-2 Pancreatic Cancer Cell Lines

Bortecine Sevgin^{1,†}, Merve Nur Coban^{1,†}, Özge Rencuzogullari¹, Ajda Coker-Gurkan², Pinar Obakan-Yerlikaya¹, Pinar Uysal Onganer³ and Elif Damla Arisan^{4,*}

GCAT
TACG
GCAT
genes

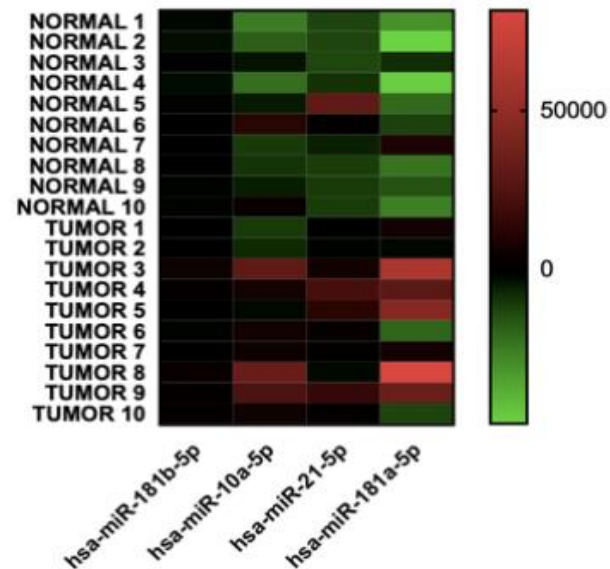
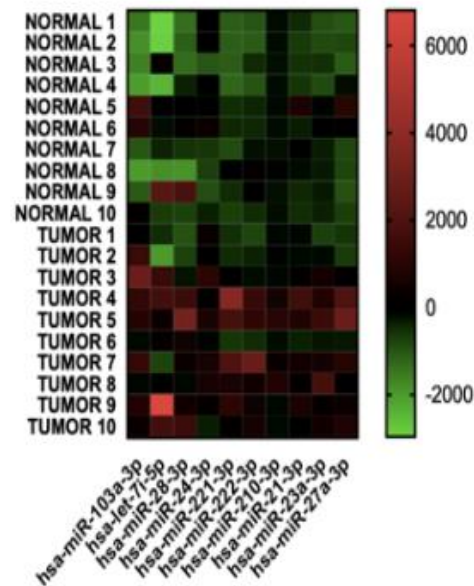
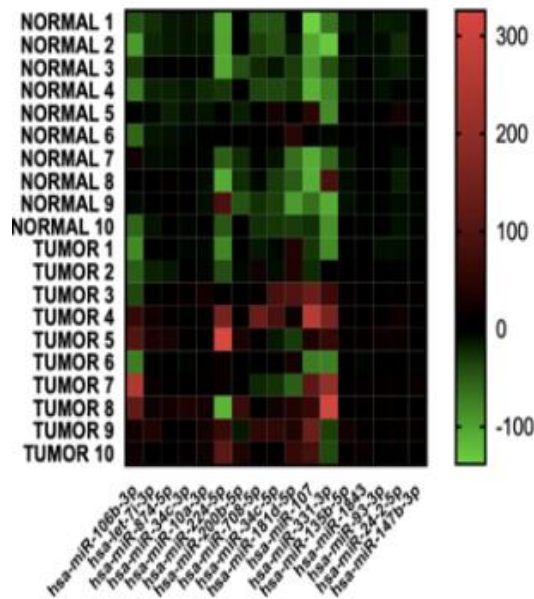


Article

Wnt-11 Expression Promotes Invasiveness and Correlates with Survival in Human Pancreatic Ductal Adeno Carcinoma

Dafydd A. Dart^{1,2}, Damla E Arisan³, Sioned Owen^{1,4}, Chunyi Hao⁵, Wen G. Jiang¹ and Pinar Uysal-Onganer^{6,*}

Up-regulated

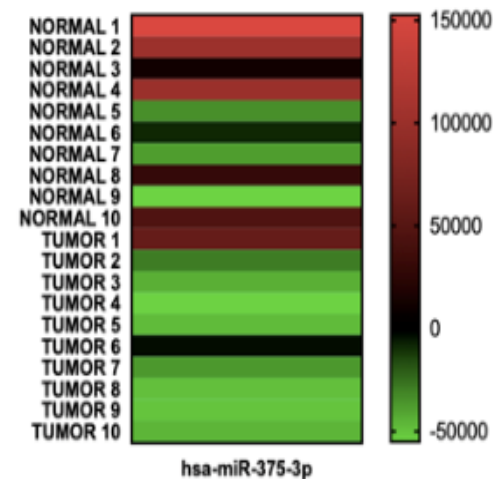
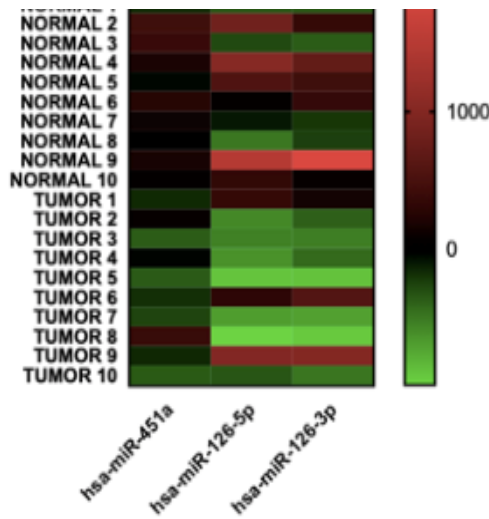
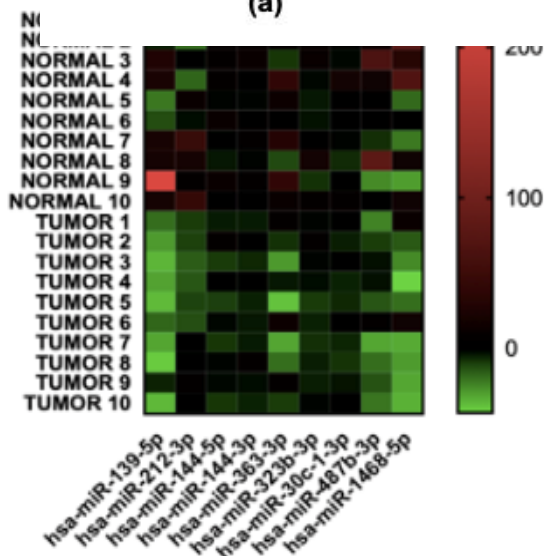


(a)

(b)

(c)

Down-regulated

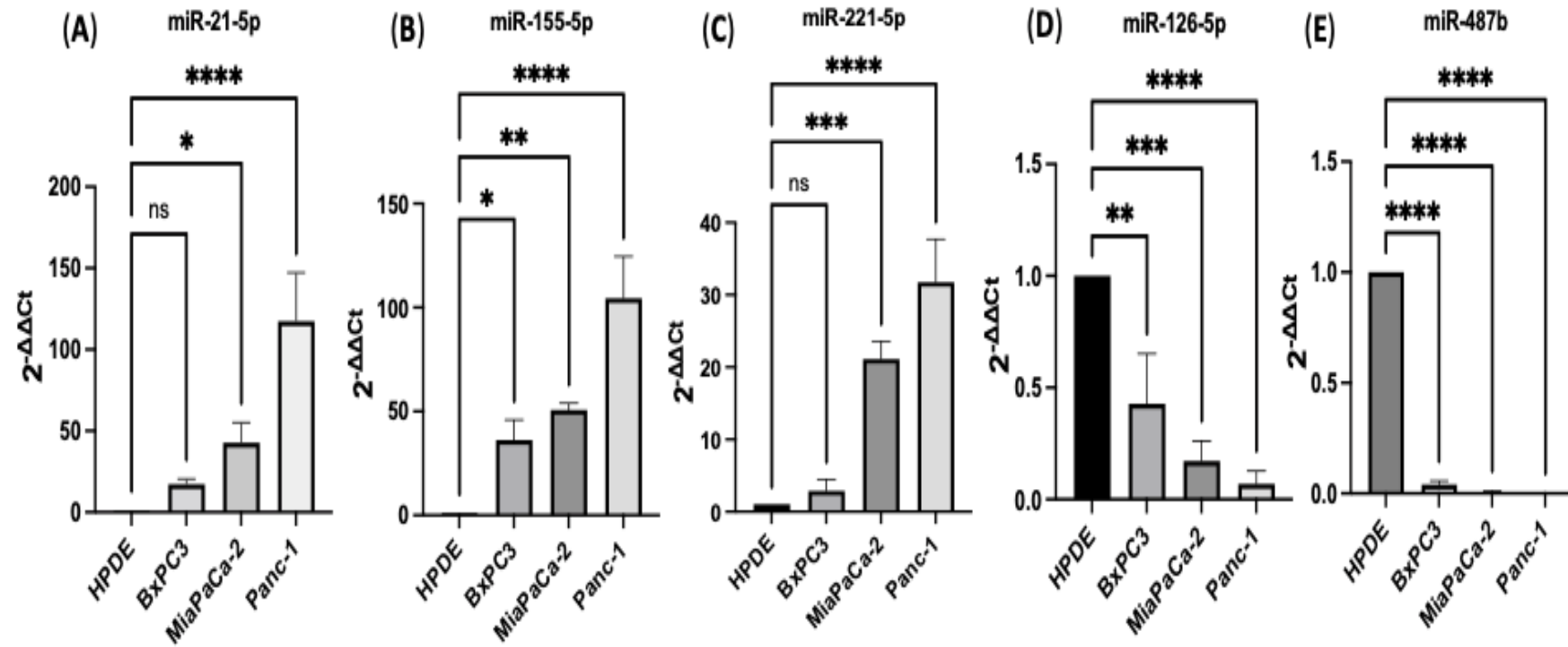


(a)

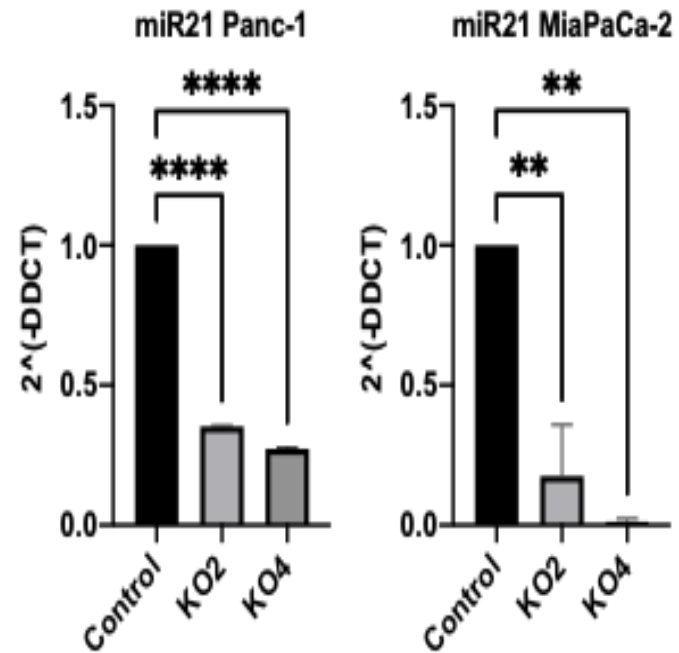
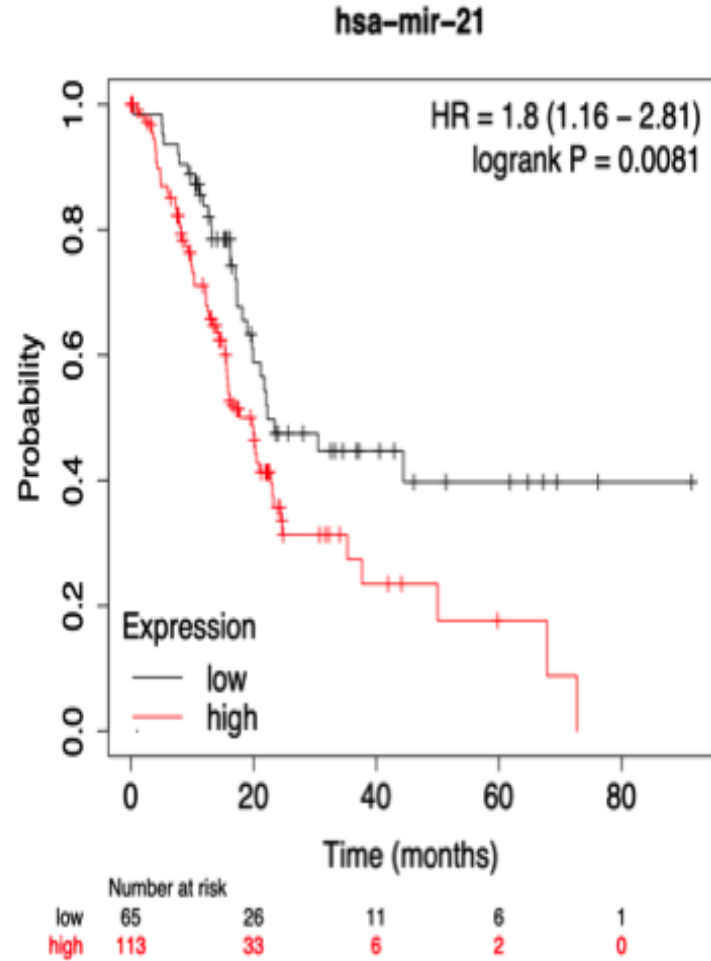
(b)

(c)

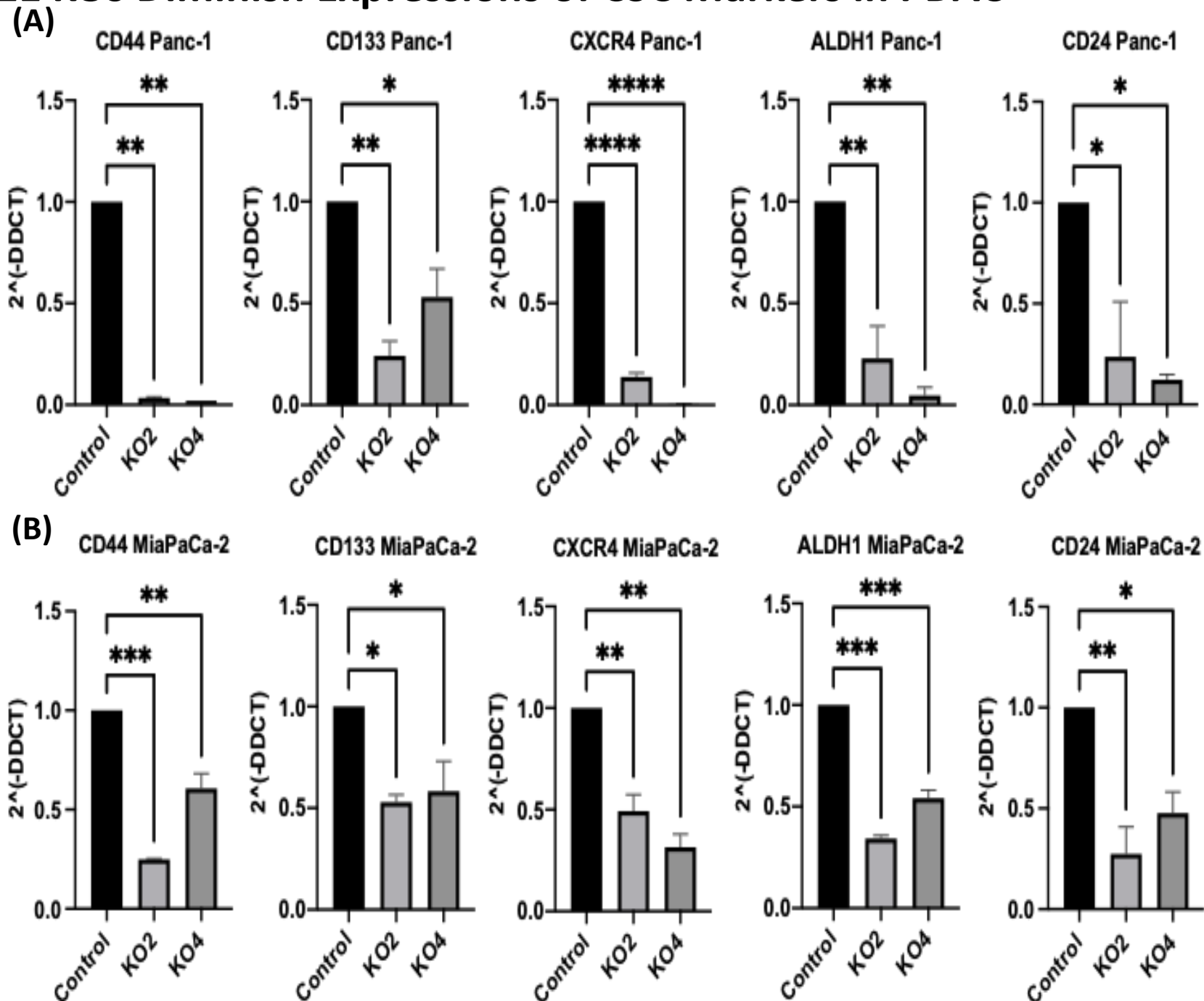
Expression Profiles of miR-21, miR-221, miR-155, and miR-126 in PDAC *in vitro*

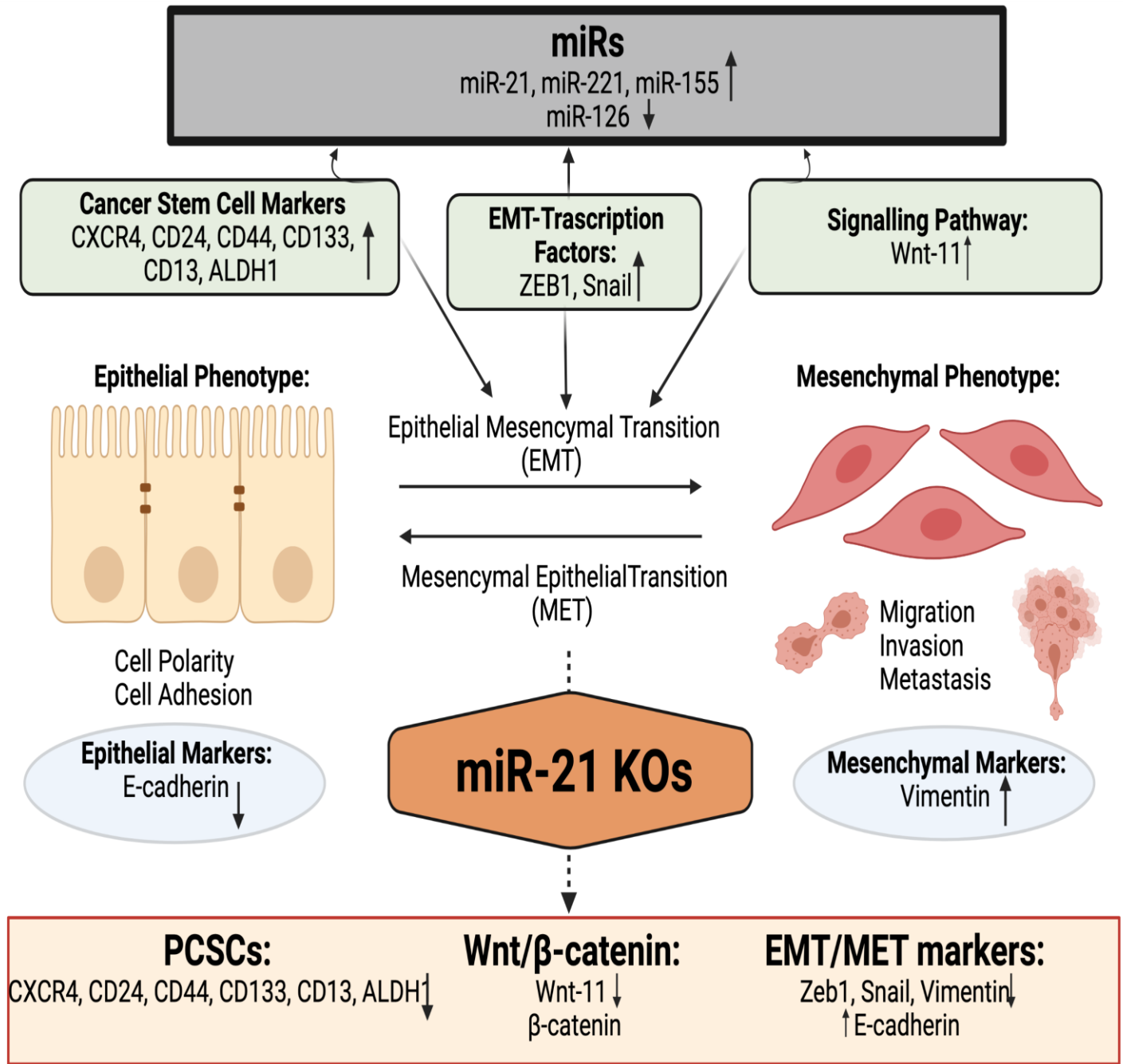


miR-21 expression was the most elevated in the Panc-1 and MiaPaCa-2 PDAC cell lines correlating with *in vivo* data

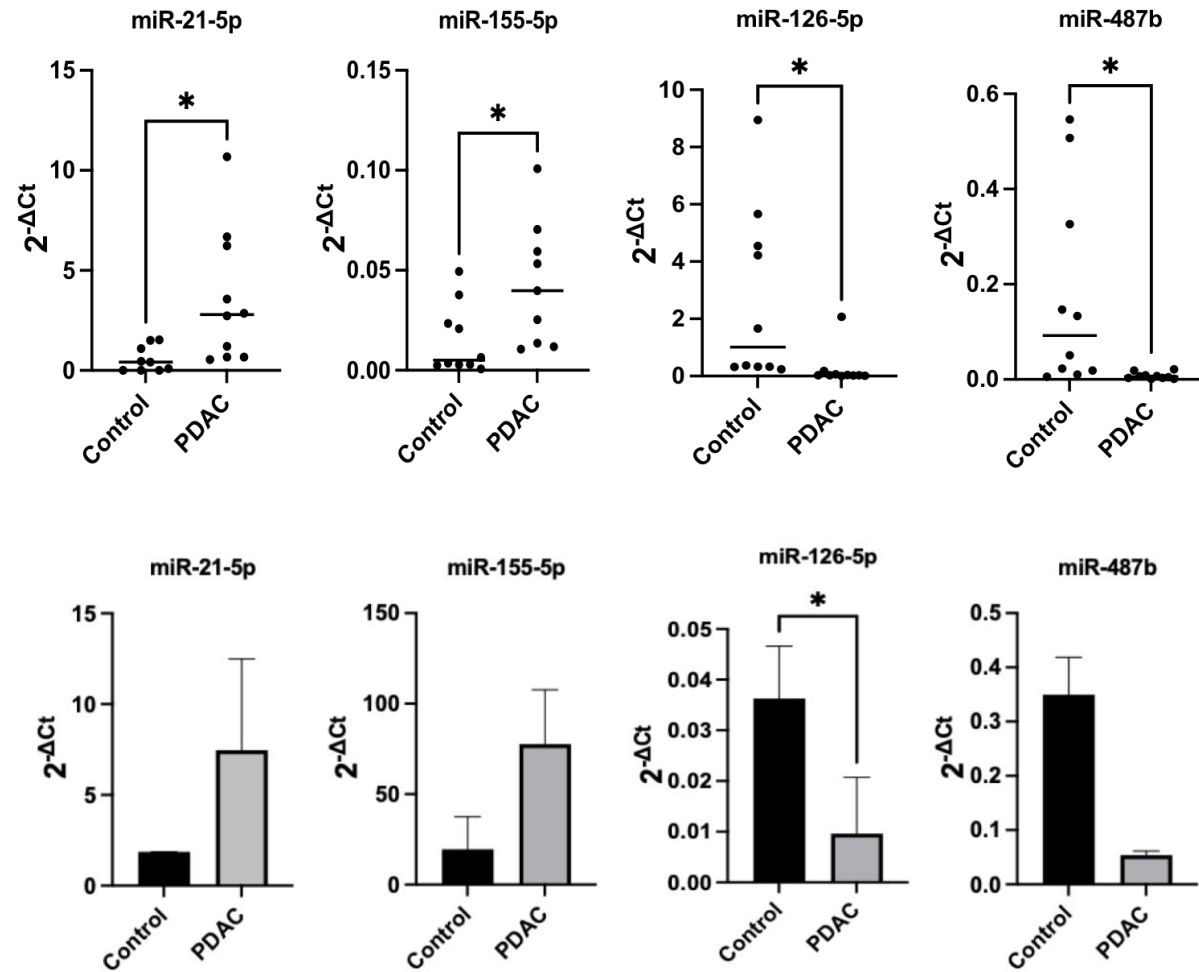


miR-21 KO Diminish Expressions of CSC Markers in PDAC

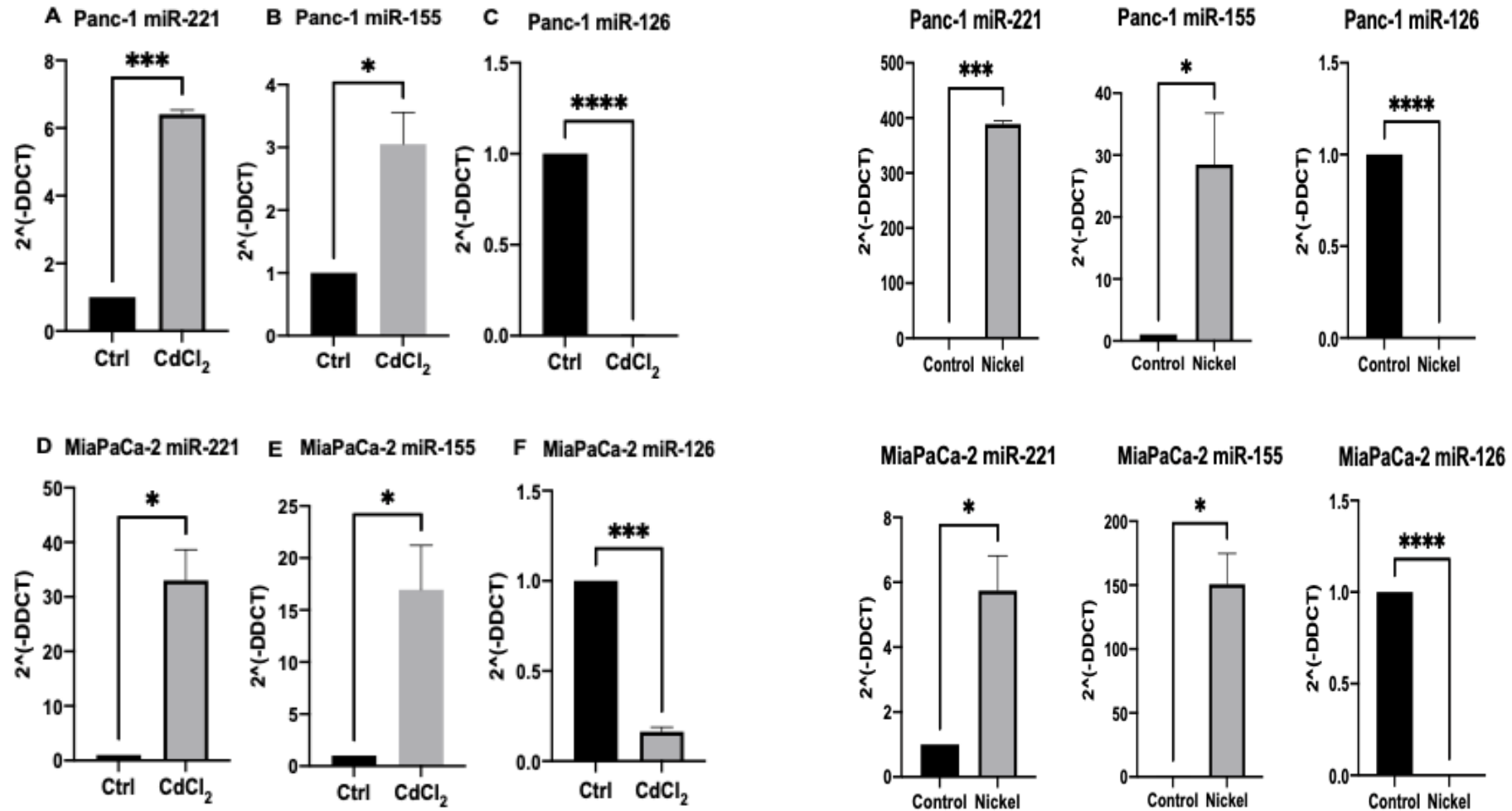




Work in Progress: Differential expression of miRNAs in PDAC *in vivo*:



Environmental Toxins and miRs



Project 2: What are the effects of environmental toxins on PDAC?

Archives of Toxicology (2022) 96:467–485
<https://doi.org/10.1007/s00204-021-03196-9>



Toxicology Reports
Volume 9, 2022, Pages 778–787



INORGANIC COMPOUNDS



Role of microRNAs in response to cadmium chloride in pancreatic ductal adenocarcinoma

Maria Mortoglou¹ · Aleksandra Buha Djordjevic² · Vladimir Djordjevic³ · Hunter Collins⁴ · Lauren York⁴ · Katherine Manis⁴ · Elizabeth Valle⁴ · David Wallace⁴ · Pinar Uysal-Onganer¹

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Epigenetic mechanisms in metal carcinogenesis

Luka Manić^a, David Wallace^b, Pinar Uysal Onganer^c, Yasmeen M. Taalab^{d, e}, Ahammad Ahmad Farooqi^f, Biljana Antonijević^a, Aleksandra Buha Djordjevic^a



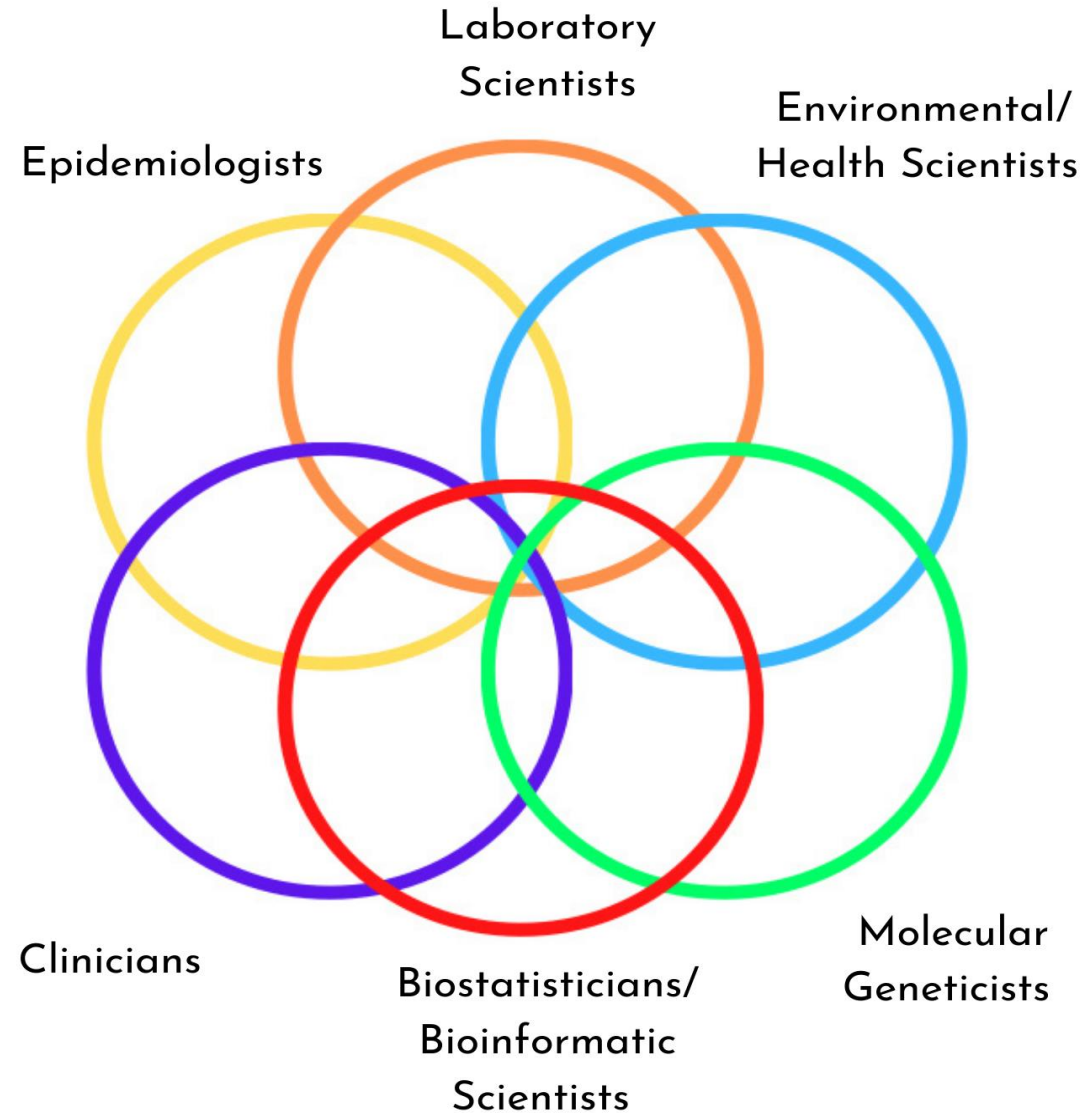
Article

Nickel's Role in Pancreatic Ductal Adenocarcinoma: Potential Involvement of microRNAs

Maria Mortoglou¹ , Luka Manić² , Aleksandra Buha Djordjevic² , Zorica Bulat² , Vladimir Đorđević³, Katherine Manis⁴, Elizabeth Valle⁴, Lauren York⁴, David Wallace^{5,*} and Pinar Uysal-Onganer^{1,*}



Collaboration is the **KEY** for Success in Research



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Elif Damla Arisan

