

Encontro Investigação Jovem da Universidade do Porto

**BOOK OF
ABSTRACTS**

**06 - 07 - 08
Maio 2026**

19.^a Edição



ORGANIZAÇÃO



APOIO



**Encontro
Investigação
Jovem da
Universidade
do Porto**

**YOUNG
RESEARCHERS
MEETING**

**06 - 07 - 08
Maio 2026**

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ORGANIZAÇÃO



APOIO



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Young Researchers Meeting of U.Porto*

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Professor Doutor Pedro Rodrigues

ijup@reit.up.pt

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Encontro Investigação Jovem da Universidade do Porto



PROGRAM

**06 - 07 - 08
Maio 2026**

19.^a EDIÇÃO

May, 6th

May, 7th

May, 8th

8H		Opening of the secretariat for all participants						
8H30 > 10H30	PARALLEL ORAL SESSIONS I			PARALLEL ORAL SESSIONS IV		PARALLEL ORAL SESSIONS VII		
	A1 – Criminology and Law I A2 – Health Sciences I A3 – Sport Sciences I A4 – Architecture I A5 – Engineering I A6 – Biological Sciences I			A1 – AgroFood I A2 – Health Sciences IV A3 – Sport Sciences III A4 – Astronomy A5 – Chemistry I A6 – Biological Sciences IV		A1 – Arts I A2 – Health Sciences VII A3 – HSS IV – History, Archeology, Cultural Studies and Communication Sciences A4 – Physics I A5 – Chemistry III A6 – Biological Sciences VII		
10H30 > 11H		Coffee Break						
11H > 13H	PARALLEL ORAL SESSIONS II			PARALLEL ORAL SESSIONS V		PARALLEL ORAL SESSIONS VIII		
	A1 – Criminology and Law II A2 – Health Sciences II A3 – Sport Sciences II A4 – Architecture II A5 – Engineering II A6 – Biological Sciences II			A1 – AgroFood II A2 – Health Sciences V A3 – Sport Sciences IV A4 – Maths & Physics A5 – Engineering IV A6 – Biological Sciences V		A1 – Environment II A2 – Health Sciences VIII A3 – Psychology & Education Sciences III A4 – Physics II A5 – Chemistry IV A6 – Economics & Management		
13H > 14H30		Lunch Break						
14H30> 16H	POSTER SESSION I			POSTER SESSION II		POSTER SESSION III		
	Architecture Biological Sciences I Criminology and Law Engineering I Health Sciences I Sport Sciences I			AgroFood Biological Sciences II Chemistry Engineering II Health Sciences II Sport Sciences II		Arts Astronomy, Physics & Maths Economics & Management Environment & Geology Health Sciences III History & Sociology Psychology & Education Sciences		
16H > 16H30		Coffee Break						
16H30 > 18H30	PARALLEL ORAL SESSIONS III			PARALLEL ORAL SESSIONS VI		PARALLEL ORAL SESSIONS IX		
	A1 – HSS I – Political Sciences A2 – Health Sciences III A3 – Psychology & Education Sciences I A4 – HSS II – Political Sciences, Sociology and Geography A5 – Engineering III A6 – Biological Sciences III			A1 – Environment I A2 – Health Sciences VI A3 – Psychology & Education Sciences II A4 – HSS III – History of Art A5 – Chemistry II A6 – Biological Sciences VI		A1 – Arts II A2 – Health Sciences IX A3 – Psychology & Education Sciences IV A4 – HSS V – History A5 – HSS VI – Literature and Philosophy A6 – Health Sciences X		

24430 | Circulating MicroRNAs as Diagnostic and Prognostic Biomarkers in Pulmonary Hypertension: A Systematic Review

Lucas Gamito^{1,2}; Mariana Carvalho Magalhães^{1,2}; Rui Adão^{2,3}; Dina Cosme²; Carmen Brás-Silva^{2,4}

¹Faculty of Sciences, University of Porto, Porto, Portugal; ²RISE-Health, Faculty of Medicine, University of Porto, Porto, Portugal; ³Complutense University of Madrid, Madrid, Spain; ⁴ Faculty of Nutrition and Food Sciences, University of Porto, Porto, Portugal

Background & Aim: Pulmonary hypertension (PH) is a complex and incurable cardiovascular disorder, often diagnosed late due to nonspecific symptoms and the lack of reliable biomarkers^[1]. Circulating microRNAs (miRNAs) are small, stable non-coding RNAs that regulate fundamental cellular processes and are readily detectable in blood-derived samples^[2-4]. In PH, miRNAs are involved in key pathogenic mechanisms, including pulmonary vascular remodeling, maladaptive cell proliferation and inflammatory signaling, highlighting their potential as non-invasive biomarkers^[4, 5]. However, current evidence remains fragmented regarding their diagnostic and prognostic utility. Moreover, published evidence often focuses on specific mechanisms or PH subtypes, providing limited comparative assessment of their performance as biomarkers^[4, 5]. To address these gaps, this systematic review aims to synthesize both clinical and experimental evidence on circulating miRNAs, evaluating their potential as diagnostic and prognostic biomarkers in PH. **Methods:** PubMed, Web of Science, Scopus and ClinicalTrials.gov databases were searched, following PRISMA 2020 guidelines^[6]. Eligible studies included human PH patients or mammalian *in vivo* models reporting circulating miRNA levels in plasma/serum with diagnostic and/or prognostic outcomes. Data were extracted on study design, population, PH subtype, sample type, assays, normalization, differential expression, and performance metrics. Risk of bias and reporting quality were assessed using QUADAS-2^[7], QUIPS^[8], SYRCLE^[9] and ARRIVE^[10] tools. **Results:** Studies reported a set of circulating miRNAs dysregulated in PH associated with disease severity and prognosis. Although miRNA panels outperformed single biomarkers, substantial methodological heterogeneity was observed across studies. **Conclusions:** Circulating miRNAs demonstrated potential as diagnostic and prognostic biomarkers in PH, but further standardized and prospective studies are needed to support clinical translation.

Keywords: Pulmonary Hypertension (PH); Circulating microRNAs (miRNAs); Diagnostic Biomarkers; Prognostic Biomarkers; Systematic Review

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References:

- [1] Humber, M., et al., 2022 ESC/ERS Guidelines for the diagnosis and treatment of pulmonary hypertension Developed by the task force for the diagnosis and treatment of pulmonary hypertension of the European Society of Cardiology (ESC) and the European Respiratory Society (ERS). Endorsed by the International Society for Heart and Lung Transplantation (ISHLT) and the European Reference Network on rare respiratory diseases (ERN-LUNG). *European Heart Journal*, 2022. 43(38): p. 3618–3731.
- [2] Lee, R., R. Feinbaum, and V. Ambros, A short history of a short RNA. *Cell*, 2004. 116(2 Suppl): p. S89–92, 1 p following S96.
- [3] Weber, J.A., et al., The microRNA spectrum in 12 body fluids. *Clin Chem*, 2010. 56(11): p. 1733–41.
- [4] Fang, J., et al., miRNAs in Pulmonary Hypertension: Mechanistic Insights and Therapeutic Potential. *Biomedicines*, 2025. 13(8).
- [5] Zhou, G., T. Chen, and J.U. Raj, MicroRNAs in pulmonary arterial hypertension. *Am J Respir Cell Mol Biol*, 2015. 52(2): p. 139–51.
- [6] Page, M.J., et al., The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. *Syst Rev*, 2021. 10(1): p. 89.
- [7] Whiting, P.F., et al., QUADAS-2: a revised tool for the quality assessment of diagnostic accuracy studies. *Ann Intern Med*, 2011. 155(8): p. 529–36.
- [8] Hayden, J.A., et al., Assessing bias in studies of prognostic factors. *Ann Intern Med*, 2013. 158(4): p. 280–6.
- [9] Hooijmans, C.R., et al., SYRCLE's risk of bias tool for animal studies. *BMC Medical Research Methodology*, 2014. 14(1): p. 43.
- [10] Percie du Sert, N., et al., The ARRIVE guidelines 2.0: Updated guidelines for reporting animal research. *Br J Pharmacol*, 2020. 177(16): p. 3617–3624.