

# MicroRNAs as a Suitable Biomarker to Detect the Effects of Long-Term Exposures to Nanomaterials. Studies on TiO<sub>2</sub>NP and MWCNT

Sandra Ballesteros <sup>1</sup>, Gerard Vales <sup>2</sup>, Antonia Velázquez <sup>1</sup>, Susana Pastor <sup>1</sup>, Mohamed Alaraby <sup>1,3</sup>, Ricard Marcos <sup>1,\*</sup> and Alba Hernández <sup>1,\*</sup>

<sup>1</sup> Group of Mutagenesis, Department of Genetics and Microbiology, Faculty of Biosciences, Universitat Autònoma de Barcelona, 08193 Cerdanyola del Vallès, Spain; sandra.ballesteros@uab.es (S.B.); antonia.velazquez@uab.es (A.V.); susana.pastor@uab.es (S.P.); ma\_abdalaziz24@yahoo.com (M.A.)

<sup>2</sup> Finnish Institute of Occupational Health, 00250 Helsinki, Finland; gerard.vales@ttl.fi

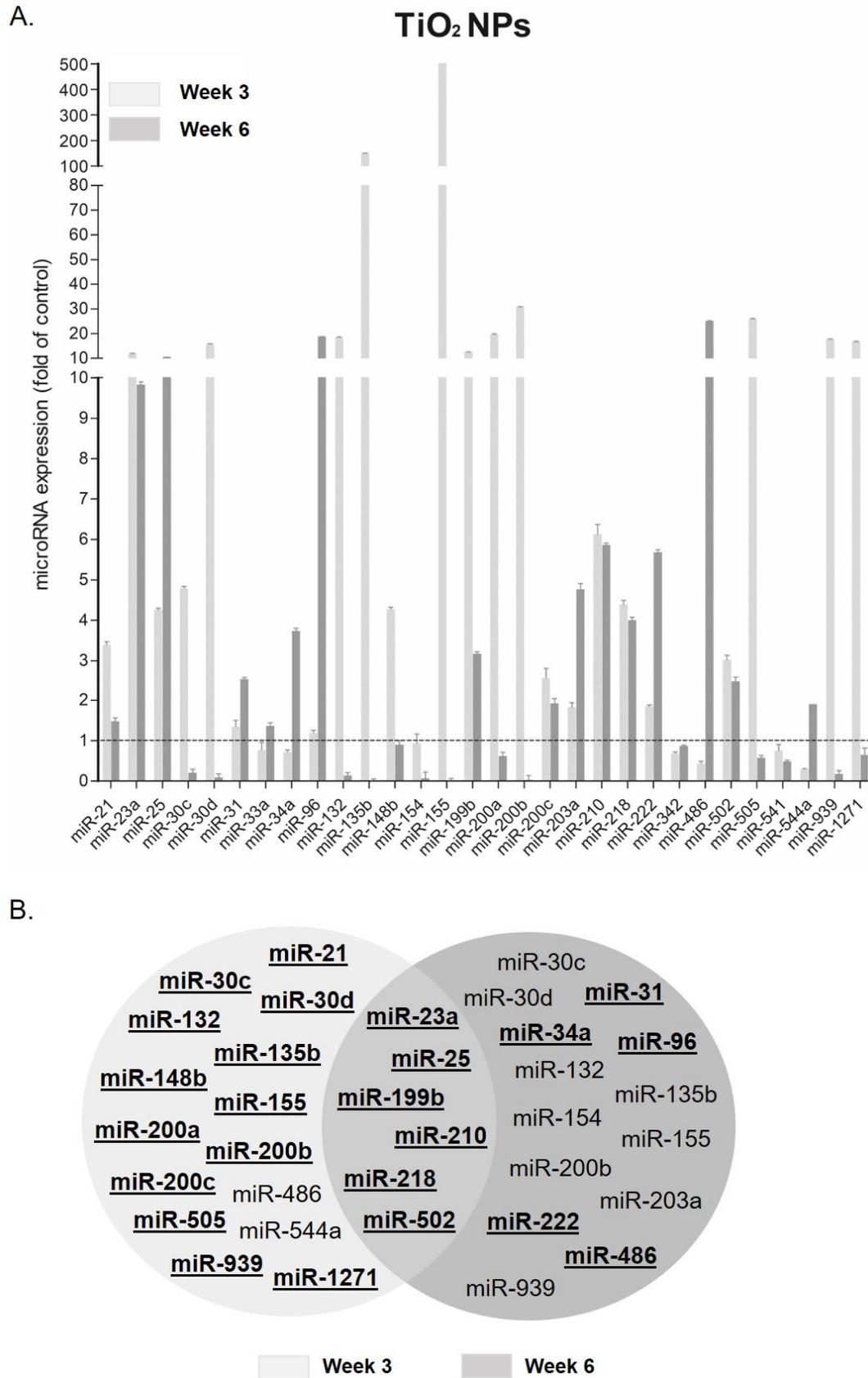
<sup>3</sup> Zoology Department, Faculty of Sciences, Sohag University, Sohag 82524, Egypt; mohamed.alaraby@science.sohag.edu.eg (M.A.)

\* Correspondence: ricard.marcos@uab.cat (R.M.); alba.hernandez@uab.cat (A.H.)

## Supplementary figures

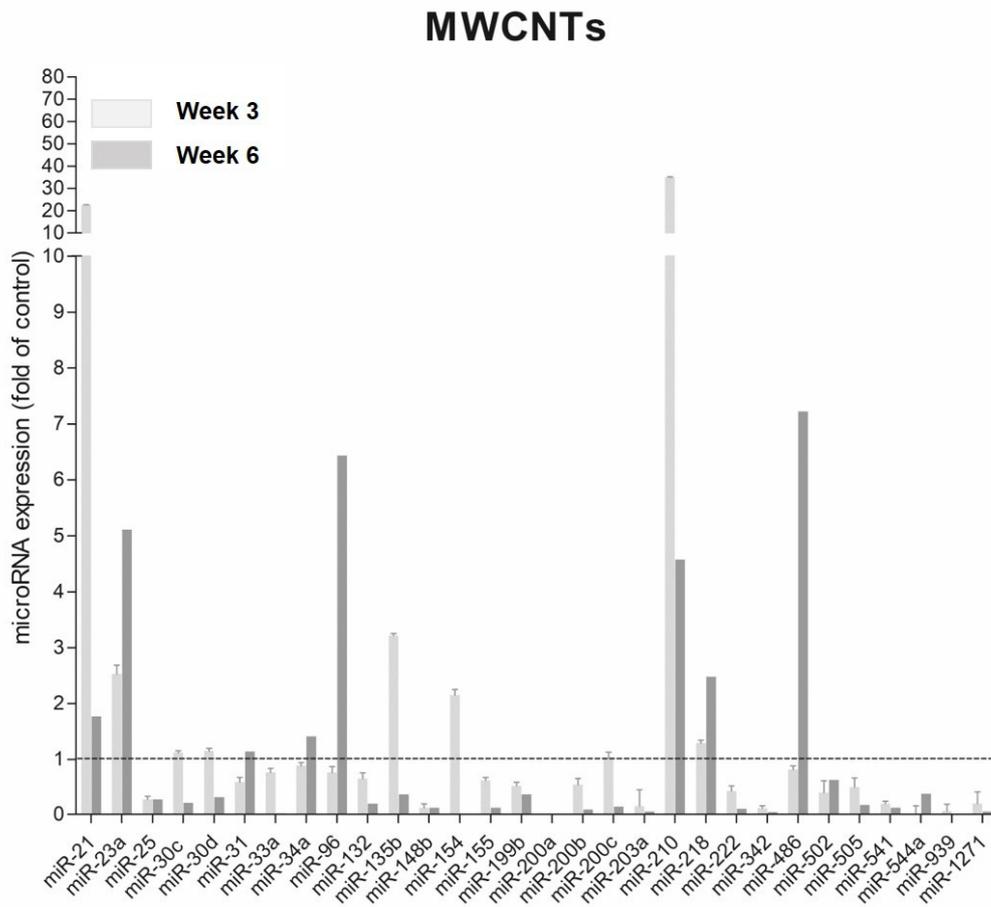
**Figure S1.** MicroRNA expression changes of BEAS-2B cells exposed to the lowest concentration of TiO<sub>2</sub>NPs. (A) Deregulated microRNAs at week 3 (1 + 2) and week 6 (4 + 2) after the exposure to TiO<sub>2</sub>NPs. Data are plotted as mean, and error bars represent the SEM. (B) Venn diagram showing the number of microRNAs significantly deregulated at week 3 (1 + 2) and week 6 (4 + 2) of the exposure. The overlapping area indicates the number of microRNAs commonly deregulated at both exposure times. Overexpressed microRNAs are in bold and underlined. Results were analyzed with the Student's *t*-test ( $P < 0.05$ ).

**Figure S2.** MicroRNA expression changes of BEAS-2B cells exposed to the lowest concentration of MWCNTs. (A) Deregulated microRNAs at week 3 (1 + 2) and week 6 (4 + 2) after the exposure to MWCNTs. Data are plotted as mean, and error bars represent the SEM. (B) Venn diagram showing the number of microRNAs significantly deregulated at week 3 (1 + 2) and week 6 (4 + 2) of the exposure. The overlapping area indicates the number of microRNAs commonly deregulated at both exposure times. Overexpressed microRNAs are in bold and underlined. Results were analyzed with the Student's *t*-test ( $P < 0.05$ ).

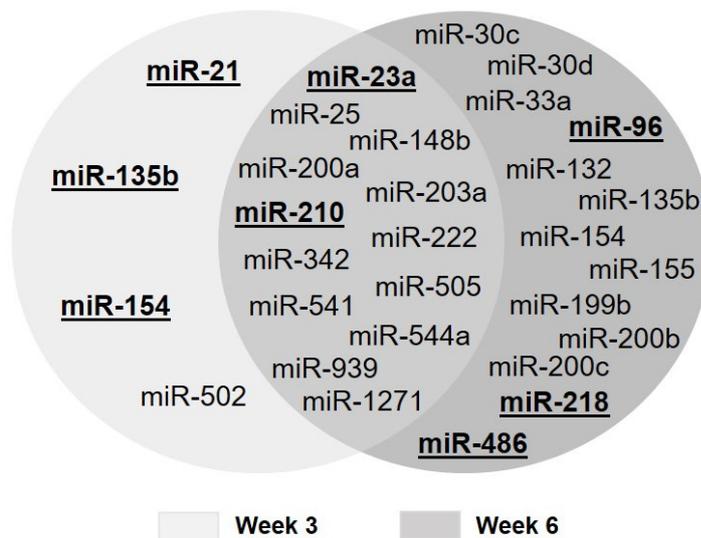


**Figure S1:** MicroRNA expression changes of BEAS-2B cells exposed to the lowest concentration of TiO<sub>2</sub>NPs.

A.



B.



**Figure S2:** MicroRNA expression changes of BEAS-2B cells exposed to the lowest concentration of MWCNTs.