

## **SNPs in bone-related miRNAs are associated with the osteoporotic phenotype**

Laura De-Ugarte<sup>1</sup>, Enrique Caro-Molina<sup>1</sup>, Maria Rodríguez-Sanz<sup>1</sup>, Miguel Ángel García-Pérez<sup>2</sup>, José M. Olmos<sup>3</sup>, Manuel Sosa-Henríquez<sup>4</sup>, Ramón Pérez-Cano<sup>5</sup>, Carlos Gómez-Alonso<sup>6</sup>, Luis Del Río<sup>7</sup>, Jesús Mateo-Agudo<sup>8</sup>, José Antonio Blázquez-Cabrera<sup>9</sup>, Jesús González-Macías<sup>10</sup>, Javier del Pino-Montes<sup>11</sup>, Manuel Muñoz-Torres<sup>12</sup>, Manuel Díaz-Curiel<sup>13</sup>, Jorge Malouf<sup>14</sup>, Antonio Cano<sup>15</sup>, José Luis Pérez-Castrillon<sup>16</sup>, Xavier Nogues<sup>1</sup>, Natalia Garcia-Giralt<sup>1\*</sup>, Adolfo Diez-Perez<sup>1</sup>.

<sup>1</sup>IMIM (Hospital del Mar Medical Research Institute), Universitat Autònoma de Barcelona, RETICEF (ISCII), Barcelona

<sup>2</sup>Department of Genetics and Institute of Health Research INCLIVA, University of Valencia, Valencia

<sup>3</sup>Department of Internal Medicine, Hospital Universitario Marqués de Valdecilla-IDIVAL/Hospital de Torrelavega, Universidad de Cantabria. RETICEF, Santander

<sup>4</sup>Unidad Metabólica Ósea, Hospital Universitario Insular, Universidad de Las Palmas de Gran Canaria.

<sup>5</sup>Departamento de Medicina (USE), UGC Medicina Interna, Hospital Universitario Virgen Macarena, Sevilla

<sup>6</sup>Servicio de Metabolismo Óseo y Mineral, Hospital Universitario Central de Asturias, Oviedo

<sup>7</sup>CETIR Grup Mèdic ,RETICEF, Barcelona.

<sup>8</sup>Servicio COT, Hospital Universitario Miguel Servet, Zaragoza

<sup>9</sup>Servicio de Medicina Interna, Complejo Hospitalario Universitario de Albacete, Albacete

<sup>10</sup>Departamento de Medicina Interna, H. Marqués de Valdecilla, Universidad de Cantabria, IDIVAL, RETICEF, Santander

<sup>11</sup>Servicio de Reumatología. Hospital Universitario de Salamanca. RETICEF (ISCIII). IBSAL (Biomedical Research Institute of Salamanca), Salamanca

<sup>12</sup>UGC Endocrinología y Nutrición. Hospital Universitario San Cecilio. Granada, RETICEF, Ibs Granada

<sup>13</sup>Unidad de Enfermedades Metabólicas Óseas. Servicio de Medicina Interna. Fundación Jiménez Díaz, Madrid

<sup>14</sup>Hospital de la Santa Creu I Sant Pau. Institut d'Investigació Biomèdica Sant Pau, Barcelona.

<sup>15</sup>Department of Pediatrics, Obstetrics and Gynecology, University of Valencia, INCLIVA, Valencia

<sup>16</sup>Hospital Universitario Río Hortega, Valladolid

**Corresponding author:** Natalia Garcia-Giralt

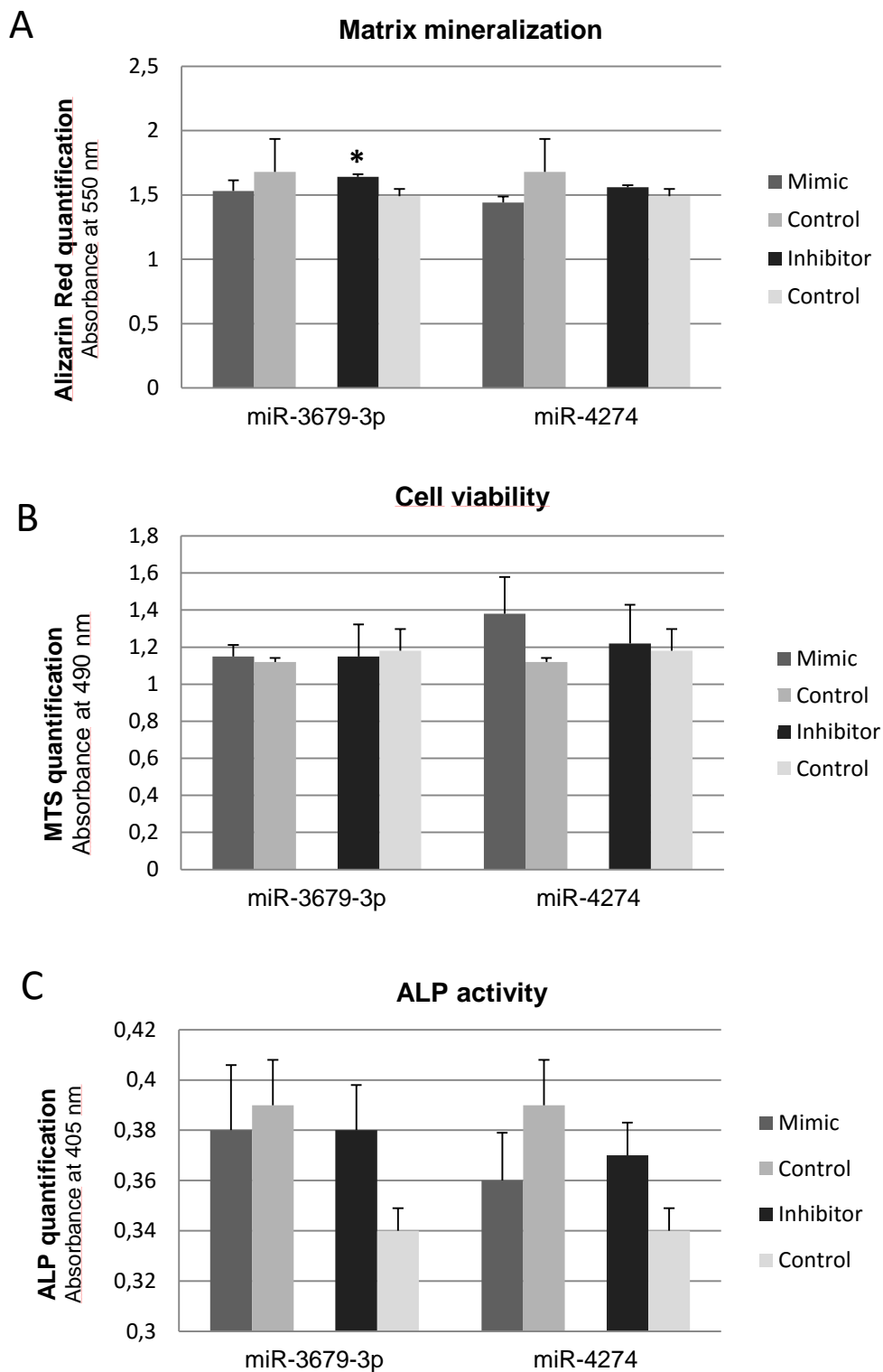
e-mail: [ngarcia@imim.es](mailto:ngarcia@imim.es)

Phone: 0034 933160497

Fax: 0034 933160410

**Supplemental Table 1. Participant centers of the OSTEOMED2 cohort and DXA devices**

Medical center	Densitometer
C. Hospitalario Universitario de Albacete	Norland System XR-26 (Norland Medical Systems Inc.; Fort Atkinson, WI, USA)
CETIR Centre Mèdic	GE-Lunar, iDXA (General Electric Healthcare, Inc)
Complejo Hospitalario Universitario de Granada	QDR 4500 (Hologic, Waltham, MA, USA)
Fundacion Jimenez Diaz	QDR 4500 C (Hologic, Waltham, MA, USA)
Hospital de Sant Pau	QDR Discovery (Hologic, Waltham, MA, USA)
Hospital del Mar	QDR 4500 SLR (Hologic, Waltham, MA, USA)
Hospital Universitario Central de Asturias	Hologic Discovery A (Hologic, Waltham, MA, USA)
Hospital Universitario de Salamanca	QDR 4500 SLR (Hologic, Waltham, MA, USA)
Hospital Universitario Insular	QDR 4500 SLR (Hologic, Waltham, MA, USA)
Hospital Universitario Marqués de Valdecilla	QDR 4500 W (Hologic, Waltham, MA, USA)
Hospital Universitario Miguel Servet	LUNAR DPX-NT densitometer (General Electric Company, Madison, MI, USA)
Hospital Universitario Virgen Macarena	Hologic "Discovery" (Hologic, Waltham, MA, USA)
Hospital Universitario Río Hortega	Lunar Prodigity Primo ( General Electrics Helthcare, USA )
Institute of Health Research INCLIVA	Norland XR-36 (Norland Medical Systems Inc.; Fort Atkinson, WI, USA)
	Lunar DPX (GE Lunar Corporation, Madison, WI, USA)



**Supplemental Fig. 1.** In-vitro assessment of osteoblast activity and matrix mineralization after hOB transfection with mimics or inhibitors of miR-3679-3p and miR-4274: A) Matrix mineralization evaluated by using alizarin red staining and quantification. B) Cell viability evaluated by using MTS assay. C) ALP activity evaluated by using Alkaline Phosphatase Assay. \*  $p < 0.05$