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Information about the contributions of each person named as having participated in the study

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The guarantors of this manuscript confirm that all persons designated as authors qualify for authorship, and that each author has participated sufficiently in the work to take public responsibility for appropriate portions of the content.

2) Authors who participated in the **conception of the study**: Estela Paz Artal, Ivan Bernardo, Esther Mancebo, Luis Allende and Alberto Anel.

3) Design & Methods. The following authors were responsible for specific investigations:

- Estela Paz participated in the design and coordination of work
- Ivan Bernardo and Esther Mancebo designed and performed experiments, and analyzed data.
- Ignacio Aguilo and Alberto Anel designed and performed the generation of alloantigen specific
- T lymphocytes, Nk activity and proliferation experiments, and analyzed these data.
- Luis M Allende and Paloma Talayero provided assistance in flow cytometry assays and cell cultures.
- Juan M. Guerra Vales and Jesús Ruiz Contreras were responsible for clinical follow up.
- Antonio Serrano designed plasmid construction and transfection in 293T cells experiments, and analyzed data.

• Oscar de la Calle and Cecilia Gonzalez Santesteban contributed with clinical and immunological data.

4) **Results.** The following authors were responsible for specific portions of the results, including figures and tables

• Ivan Bernardo and Esther Mancebo were responsible for the analysis of data and contributes equally for all figures and tables except Figure 3B.

• Ignacio Aguilo and Alberto Anel were responsible for the generation of alloantigen specific T lymphocytes, Nk activity and proliferation analysis and the realization of Figure 3B.

5) Writing the manuscript. The following authors were responsible for writing the manuscript:
• Esther Mancebo and Estela Paz Artal wrote the manuscript and approved the final version.

• Iván Bernardo, Ignacio Aguiló, Alberto Anel, Luis M. Allende, Juan M. Guerra-Vales, Jesús Ruiz-

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