

## JAVIER MARTINEZ

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### Positions Held to Date:

Since 2016	Group Leader, Max Perutz Labs. Professor, Medical University of Vienna.
2004-2015	Junior Group Leader, IMBA, Vienna, Austria
2001-2003	Post-doctoral Fellow: Mechanism of RNAi in human cells. T. Tuschl lab, Max Planck for Biophysical Chemistry, Göttingen, and Rockefeller Univ. New York.
1995-2000	Post-doctoral Fellow: Deadenylation in human cells. A. Virtanen lab, Univ. Uppsala.
1990-1995	Ph.D: Proteinases in <i>T. cruzi</i> . J.J. Cazzulo's lab, Univ. Buenos Aires, Argentina.

### Main Area of Research:

RNA processing in mammalian cells. Molecular mechanisms in Diamond-Blackfan Anemia Syndrome.

### Teaching and Mentoring:

2024-	Lecturer "Advanced Topics in Chromosome & RNA Biology", Master Molecular Biology.
2022-	Coordinator of "Diseases of Enzymatic Insufficiency", Master Program in Molecular Precision Medicine.

### Awards and Prizes:

2007	European Young Investigator EMBO-YIP and BioRad European RNAi Award.
2015	EMBO Member.

### Publications: Most important papers in the last 5 years and other relevant papers:

Ashwin and FAM98 paralogs define nuclear and cytoplasmic RNA ligase complexes for tRNA biogenesis and the unfolded protein response. Leitner, M., Moser, M., Raynaud, N., Pfeleiderer, M., Jinek, M. and **Martinez, J.** In resubmission to **Nat Commun.**  
bioRxiv 2025.08.01.668163; doi: <https://doi.org/10.1101/2025.08.01.668163>.

Mechanistic basis for PYROXD1-mediated protection of the human tRNA ligase complex against oxidative inactivation. Loeff, L., Kroupova, A., Asanović, I., Boneberg, F.M., Pfeleiderer, M.M., Riermeier, L., Leitner, A., Ferdigg, A., Ackle, F., **Martinez, J.**, Jinek, M. **Nat Struct Mol Biol.** 2025 Jul;32(7):1205-1212. doi: 10.1038/s41594-025-01516-6.PMID: 40069351.

Sekulovski, S., Devant, P., Panizza, S., Gogakos, T., Pitiriciu, A., Heitmeier, K., Ramsay, E.P., Barth, M., Schmidt, C., Tuschl, T., Baas, F., Weitzer, S., **Martinez, J.**<sup>§</sup>, Trowitzsch, S.<sup>§</sup>. (2021). Assembly defects of human tRNA splicing endonuclease contribute to impaired pre-tRNA processing in pontocerebellar hypoplasia. <sup>§</sup>co-corresponding authors. **Nat Commun.** 2021 Sep 28;12(1):5610. doi: 10.1038/s41467-021-25870-3. PMID: 34584079.

Asanovic, I., Strandback, E., Kroupova, A., Pasajlic, D., Meinhart, A., Tsung-Pin, P., Djokovic, N., Anrather, D., Schuetz, T., Józef Suskiewicz, M., Sillamaa, S., Köcher, T., Beveridge, R., Nikolic, K., Schleiffer, A., Jinek, M., Hartl, M., Clausen, T., Penninger, J., Macheroux, P., Weitzer, S.<sup>§</sup> and **Martinez, J.**<sup>§</sup> (2021). The oxidoreductase PYROXD1 utilizes NAD(P)<sup>+</sup> as an antioxidant to sustain tRNA ligase activity in pre-tRNA splicing and unfolded protein response. <sup>§</sup>co-corresponding authors. **Mol Cell.** 2021 Jun 17;81(12):2520-2532.e16. doi: 10.1016/j.molcel.2021.04.007. PMID: 33930333.

Pinto, P., Kroupova, A., Schleiffer, A., Mechtler, K., Jinek, M., Weitzer, S.,<sup>§</sup> and **Martinez, J.**<sup>§</sup> (2020). ANGEL2, a member of the CCR4 family of deadenylases, is a mammalian 2',3'-cyclic phosphatase. <sup>§</sup>co-corresponding authors. **Science.** 2020 Jul 31;369(6503):524-530. doi: 10.1126/science.aba9763. PMID: 32732418.

Popow, J., Jurkin J., Schleiffer, A., and **Martinez, J.** (2014). Analysis of eukaryotic orthologous groups reveals Archease and DDX1 as tRNA splicing factors. **Nature.** Jul 3;511(7507):104-7. doi: 10.1038/nature13284.

Popow, J.\* , Englert, M.\* , Weitzer, S., Schleiffer, A., Mierzwa, B., Mechtler, K., Trowitzsch, S., Will, C.L., Lührmann, R., Söll,† D., and **Martinez, J.**† (2011). HSPC117 is the essential subunit of a human tRNA splicing ligase complex. \*co-first authors; †co-corresponding authors. **Science.** Feb 11;331(6018):760-4. doi: 10.1126/science.1197847.

Weitzer, S. and **Martinez, J.** (2007). The human RNA kinase hClp1 is active on 3' transfer RNA exons and short interfering RNAs. **Nature.** 447(7141):222-6. doi: 10.1038/nature05777.

**Martinez, J.**, Patkaniowska, A., Urlaub, H., Lührmann, R. and Tuschl, T. (2002). Single-stranded antisense siRNAs guide target RNA cleavage in RNAi. **Cell**. 110, 563-574. doi: 10.1016/s0092-8674(02)00908-x.