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1.- ACADEMIC DEGREES

- Degree in Biological Sciences. (1998). University of Salamanca. Salamanca, Spain.
- "Grado de salamanca" (Minor Thesis) (1999). University of Salamanca. Salamanca, Spain.
- Ph.D. In Biology (Neuroscience Program) (2003). University of Salamanca, Spain.

2.- RESEARCH AND PROFESSIONAL EXPERIENCE

- 1997-1998: Collaborative fellowship. Spanish Ministry of Education and Science. Cell Biology and Pathology Department. University of Salamanca. Salamanca, Spain.
- 1999-2002: Ph.D. Student. Spanish Ministry of Education and Science. Cell Biology and Pathology Department. University of Salamanca. Salamanca, Spain.
- 2003- Collaborative professor. School of Biology Facultad de Biología. University of Salamanca. Salamanca, Spain.
- 2004-2006: Postdoctoral research fellow. Spanish Ministry of Education, Culture and Sports. Cajal Institute-CSIC. Madrid, Spain.
- 2006-2010. Postdoctoral researcher. National Hospital for Paraplegics-SESCAM. Toledo, Spain.
- 2011-2015. Senior Postdoctoral researcher. National Hospital for Paraplegics-SESCAM. Toledo, Spain.
- Current position. Principal Investigator. Neuroimmuno-Repair Group. National Hospital for Paraplegics-SESCAM. Toledo, Spain.

3.- PUBLICATIONS

3.1. Original papers

2021

- Helie, P.*, Camacho-Toledano, C.*, Lesec, L., Seillier, C., Miralles, A.J., Ortega, M.C., Guérit, S., Lebas, H., bardou, I., Vila-del Sol., V., Vivien, D., Le Mauff, B., **Clemente, D.#**, Docagne, F. #, Toutirais, O. # Tissue plasminogen activator worsens experimental autoimmune encephalomyelitis by complementary actions on lymphoid and myeloid cell responses. *J Neuroinflamm.* 2021. 18:52. **Similar contribution.
- Melero-Jerez, C., Fernández-Gómez, B., Lebrón-Galán, R., Ortega, M.C., Sánchez de Lara, I., Ojalvo, A.C., **Clemente, D.***, de Castro, F.* Myeloid-derived suppressor cells support remyelination in a murine model of multiple sclerosis by promoting oligodendrocyte precursor cell survival, proliferation, and differentiation. *Glia.* 2021. 69(4):905-924. * **Similar contribution of both corresponding authors.**

2020

- Melero-Jerez, C., Alonso-Gómez, A., Moñivas, E., Lebrón-Galán, R., Machín-Díaz, I., de Castro, F., **Clemente D***. The proportion of Myeloid-Derived Suppressor Cells in the spleen is related to the severity of the clinical course and tissue damage extent in a murine model of Multiple Sclerosis Neurobiology of Disease. 2020 140:104869. *Corresponding author.
- Malhotra, S., Costa, C., Eixarch, H., Keller, C.W., Amman, L.S., Martínez-Banaclocha, H., Migdalia, L., Sarró, E., Machín-Díaz, I., Villar, L.M., Triviño, J.C., Oliver-Martos, B., Navarro-Parladé, L., Calvo-Barreiro, L., Matesanz, F., Vandenbroeck, K., Urcelay, E., Martínez-Ginés, M.L., Tejeda-Velarde, A., Fissolo, N., Castelló, J., Sánchez, A., Robertson, A.A.B., **Clemente, D.**, Prinz, M., Pelegrin, P., Lünemann, J.D., Espejo, C., Montalbán, X., Comabella, M. NLRP3 inflammasome as prognostic factor and therapeutic target in primary progressive multiple sclerosis. *Brain.* 2020. 24:1414-1430.
- Calvo-Barreiro, L., Eixarch, H., Ponce-Alonso, M., Castillo, M., Lebrón-Galán, R., Mestre, L., Guaza, C., **Clemente, D.**, del Campo, R., Montalbán, X., Espejo, C. A Commercial Probiotic Induces Tolerogenic and Reduces Pathogenic Responses in Experimental Autoimmune Encephalomyelitis. *Cells.* 2020. 8:906.

2019

- Melero-Jerez, C., Suardíaz, M., Lebrón-Galán, R., Marín-Bañasco, C., Oliver-Martos, B., Machín-Díaz, I., Fernández, Ó., de Castro, F., **Clemente D***. The presence and suppressive activity of myeloid-derived suppressor cells are potentiated after interferon- β treatment in a murine model of multiple sclerosis. *Neurobiology of Disease.* 2019 127:13-31. (<https://doi.org/10.1016/j.nbd.2019.02.014>). *Corresponding author.

2018

- Mecha M, Feliú A, Machín-Díaz I, Cordero C, Carrillo-Salinas FJ, Mestre L, Hernández-Torres G, Ortega-Gutiérrez S, López-Rodríguez ML, de de Castro F, **Clemente D¹** and Guaza C¹ *Corresponding author. 2-AG limits Theiler's virus induced acute neuroinflammation by modulating microglia and promoting MDSCs. 2018. *Glia.* 66:1447-1463. **¹Corresponding author.**

2017

- Marín-Bañasco, C., Benabdellah, K., Melero-Jerez, C., Oliver, B., Pinto-Medel, M.J. Hurtado-Guerrero, I. de Castro, F.; **Clemente, D.**, Fernández, Ó., Martín, F., Leyva, L., Suardíaz-García, M Gene Therapy With Mesenchymal Stem Cells Expressing IFN β Ameliorates Neuroinflammation in Experimental Models of Multiple Sclerosis. 2017. *British J Pharmacol.* 174-3: 238-253.
- Leonetti, C., Macrez, R., Pruvost, M., Hommet, Y., Bronsard, J., Fournier, A., Perrigault, M., Machín, I., Vivien, D., **Clemente, D.**, De Castro, F., Maubert, E., Docagne, F. Tissue-type plasminogen activator

exerts EGF-like chemokinetic effects on oligodendrocytes in white matter (re)myelination. 2017. *Mol Neurodegrad.* 12: 20.

2016

- Macrez, R*., Ortega, M.C*., Bardou, I., Mehra, A., Fournier, A., Van der Pol, S.M.A., Haelewyn, B., Maubert, M., Lesept, F., Chevilly, A., de Castro, F., De Vries, H.E., Vivien, D., **Clemente, D.**# and Docagne, F.# Neuroendothelial NMDA receptors as therapeutic targets in experimental autoimmune encephalomyelitis. *Brain.* 139: 2406-2419. ****This authors equally contributed to this work.**

- Khan, M., Schultz, S., Fleming, T., Lebrón-Galán, R., **Clemente, D.**, Nawroth, P., Schwaninger, M. Hyperglycemia in stroke impairs polarization of monocytes/macrophages to a protective anti-inflammatory cell type. *J Neurosci.* 36: 9313-9325.

- Suardíaz, M., **Clemente, D.**, Marin-Bañasco, C., Orpez, T., Guerrero-Hurtado, I., Pavía, P., Pinto-Medel, M.J., de Castro, F., Leyva, L., Fernández, Ó., Oliver, B. Recombinant soluble IFN receptor (sIFNAR2) exhibits intrinsic therapeutic efficacy in a murine model of Multiple Sclerosis *Neuropharmacology.* 110: 480-492.

2014

- Moliné-Velázquez, V. Ortega, M.C., Vila-del Sol, V., Melero-Jerez, C., de Castro, F. and **Clemente, D.**¹ Synthetic Retinoid Am80 abolishes symptom recovery in a model of multiple sclerosis by modulating myeloid-derived suppressor cell fate and viability. *Neurobiol. Dis.* 2014. 67: 149-164.. **¹Corresponding author.**

2013

- **Clemente, D.**¹, Ortega, M.C., Melero-Jerez, C., de Castro, F. The effect of glia-glia interactions on oligodendrocyte precursor cell biology during development and in demyelinating diseases. *Front. Cell. Neurosci.* Invitation to the Research Topic: "Glial cells and neuro-glia interactions in the nervous system". Guest Ed. Martin Stangel. 2013.. **¹Corresponding author.**

2012

- Ortega-Muñoz, M.C., Cases, O., Merchán, P., Koziraky, R., **Clemente, D.***, de Castro, F*. Megalin mediates the influence of Sonic Hedgehog on oligodendrocyte precursor cell migration and proliferation during development. *Glia.* 2012. 60:851–866. ***This authors equally contributed to this work.**

2011

- **Clemente, D.**, Ortega, M.C., Arenzana, F.J., de Castro, F. FGF-2 and Anosmin-1 are selectively expressed in different types of multiple sclerosis lesions. *J. Neurosci.* 2011. 31, 14899-14909.

- Moliné-Velázquez, V., Cuervo, H., Vila del Sol, V., Ortega, M.C., **Clemente, D.**^{1*}, de Castro, F*. Myeloid-derived suppressor cells limit the inflammation by promoting T lymphocyte apoptosis in the spinal cord of a murine model of multiple sclerosis. *Brain Pathol.* 2011. 21, 678-691. ***This authors equally contributed to this work. ¹Corresponding author.**

2010

- García-González, D., **Clemente, D.**, Coelho, M., Esteban, P.F., Soussi-Yanicostas, N., de Castro, F. Dynamic roles of FGF-2 and Anosmin-1 in the migration of neuronal precursors from the subventricular zone during pre- and postnatal development. *Exp. Neurol.* 2010. 222: 285-295.

3.2 Reviews

- Velázquez, V., Vila-del Sol, V., de Castro, F., y Clemente, D.¹ Myeloid cell distribution and functionality in multiple sclerosis. 2016. *Histol Histopathol.* 31: 357-370. **¹Corresponding author.**
- Melero-Jerez, C., Ortega, M.C. Moliné-Velázquez, V. y Clemente, D.¹. Myeloid-derived suppressor cells in neuroimmunological diseases BBA-Molecular Basis of Disease. 2016. 1862: 368-380. **¹Corresponding author.**
- García-González, D., Murcia-Belmonte, V., Clemente D., de Castro, F. Olfactory system and myelination. *Anat Rec.* 2013. 296: 1424-1434.
- Moreno, B., Espejo, C., Mestre, L., Suardiáz, M., Clemente, D., de Castro, F., Fernández, Ó., Montalbán, X., Villoslada, P., Guaza, C. Guide for the adequate use of animal models for the development of new therapies in multiple sclerosis. *Rev. Neurol.* 2012. 54: 114-124.

4.- GRANTED RESEARCH PROJECTS

- **Análisis del componente inmuno-regulador de la respuesta inmune periférica y central como biomarcador de severidad del curso clínico en esclerosis múltiple.** Fundación Merck Salud, en la categoría de Investigación Clínica en Esclerosis Múltiple 06/2020-05-2023. 30.000 €. Principal Investigator.
- **Las células mieloides supresoras como bioindicadores de la agresividad del curso clínico y de respuesta al tratamiento en esclerosis múltiple.** Instituto de Salud Carlos III (PI18/00357). Ministerio de Ciencia e Innovación. P.I. Dr. Diego Clemente López. 01/01/2029-31/12/2021. 255.310 €. Principal Investigator.
- **Estudio de las células mieloides supresoras monocíticas en la esclerosis múltiple primariamente progresiva** dentro del Consorcio Nacional "Estudio de los mecanismos fisiopatológicos que juegan un papel importante en las formas progresivas de Esclerosis Múltiple". Esclerosis Múltiple España- Red Española de Esclerosis Múltiple. P.I. Dr. Diego Clemente López (National coordinator: Dr. L.M. Villar). 01-05-2018/30-04-2019. 50.000 € (6.500 € to our group). Principal Investigator.
- **Células mieloides supresoras: diana terapéutica endógena para el tratamiento de la esclerosis múltiple.** Aciturri Aeronáutica S.L., Vesuvius Ibérica LA, Galletas Coral Foundation, Spanish Association of Multiple Sclerosis. P.I. Dr Diego Clemente López. 1-01-17/28-02-19. 20.250 €. Principal Investigator.
- **Myeloid-derived suppressor cells and disease aggressiveness: a novel cell therapy to accelerate myelin repair in multiple sclerosis.** ARSEP Foundation Special Call for Proposals "Myelin: from lesion to repair". P.I. Dr Diego Clemente López (Transnational Coordinator: Dr. D. Clemente). 1-03-17/15-06-18. 110.000 € (50.000 € for our group). Principal Investigator and Coordinator.
- **Member of the Spanish Network of Multiple Sclerosis (REEM).** Spanish Ministry of Economy and Competitiveness. RD16/0015/0019. PI: Dr. Diego Clemente López (National coordinator: Dr. L.M. Villar). 1-01-16/31-12-18. 112.500 €. Principal Investigator.

- **"Métodos complementarios para la inmunomodulación de la actividad inflamatoria asociada a la esclerosis múltiple como herramienta neuro-reparadora"**. Spanish Multiple Sclerosis Association. . PI: Dr. Diego Clemente López. 01-03-16/28-02-17. 7.000 €. Principal Investigator.

- **"Las células mieloides supresoras como biomarcadores de agresividad en esclerosis múltiple: relación con daño tisular y neuro-reparación"**. Spanish Ministry of Economy and Competitiveness. PI15/00963. PI: Dr. Diego Clemente López. 1-01-16/31-12-18. 98.000 €. Principal Investigator.

- **"Mielina: desde la oligodendrogénesis a las enfermedades desmielinizantes-esclerosis múltiple"**. Spanish Ministry of Economy and Competitiveness. (SAF2012-40023). PI: Dr. Fernando de Castro Soubriet (initially) and Dr. Diego Clemente López (final PI). 1-1-2013/31-12-2015. Research member/Principal Investigator. Associated Fellowship for predoctoral students (former PFI). BES-2013-062630. PI: Dr. Diego Clemente López. 83.900 €.

- Initial Training Network **"nEUROinflammation"**. Marie Curie Actions. Unión Europea-FP7. IP: Dr. Diego Clemente López (transnational coordinator Dr. Markus Schwaninger). 1-09-13/31-08-17. PI of the Associated partnership.

- **"Targeting tPA/NMDA interactions as a novel strategy of immunointervention in multiple sclerosis"**. Special Call for Proposals "Immunointervention in demyelinating diseases of the Central Nervous System". ARSEP Foundation. IP: Dr. Diego Clemente López (coordinador: Dr. Fabian Docagne). 175.000 € (82.500 € for our group). 1-03-12/28-02-14. Principal Investigator.

- **"Estudio del receptor megalina y sus ligandos como posible diana terapéutica en enfermedades desmielinizantes"** Fundación para la Investigación Sanitaria de Castilla-La Mancha (FISCAM; PI-2009/26.). IP: Dr. Diego Clemente López. 1-01-10/31-12-12. 74.041,80 €. Principal Investigator.

5.- TECHNOLOGY CONTRACTS AND PATENTS

5.1. Contracts

- **Effect of Evobrutinib on Myeloid-derived suppressor cell activity**. Research Agreement with Merck. P.I. Dr. Diego Clemente López. 01/09/2020-31/08/2022. 200.000 €. Principal Investigator.

- **Glunomab-driven enhancing of myeloid-derived supresor cells**. Research Agreement with Paion Deutschland GmbH (Alemania). PI: Dr. Diego Clemente López. 2014-2016. 21.000 €.

5.2. Patents

- **Método para predecir las características histopatológicas de las lesiones de un sujeto con una enfermedad desmielinizante del sistema nervioso central**. Fernando de Castro Soubriet; Diego Clemente López; María Cristina Ortega Muñoz; Francisco Javier Arenzana Sanagérico. P200930661. Spain. 07/09/2009. Fundación del Hospital Nacional de Parapléjicos para la Investigación y la Integración.

- **Biomarcador para la clasificación histopatológica de lesiones de un sujeto con enfermedad desmielinizante del Sistema Nervioso Central**. Fernando de Castro Soubriet; Diego Clemente López; María Cristina Ortega Muñoz; Francisco Javier Arenzana Sanagérico. P201030090. Spain. 25/01/2010. Fundación del Hospital Nacional de Parapléjicos para la Investigación y la Integración.

6.- OTHER RESEARCH ACTIVITY

6.1. Honors

- 2003- Extraordinary Ph.D. Award. University of Salamanca. Salamanca, Spain.
- 2009- Best Scientific Communication at the IIIrd Internacional Meeting of Histology and Tissue Engineering: “Cell biology of oligodendrocyte precursors during development, in the adult CNS and implications in pathogenesis of demyelinating lesions: the FGF-2 dossier”, by Fernando de Castro, Javier Arenzana, M^a Cristina Ortega, Ana Bribián, Pedro F. Esteban and Diego Clemente (Abstract published in: Histol. Histopatol. 24-Suppl. 1, S74). Albacete, Spain.
- 2010- Prize to the best poster at the 19th François Lhermitte’s conferences. FRANCE-SPAIN Meeting on Multiple Sclerosis. ARSEP-FELEM. Paris, France.
- 2016- “*Esperanza (Hope)*” Award. Spanish Multiple Sclerosis Association in Toledo. Toledo, Spain.
- 2016- Honorary member of the Spanish Multiple Sclerosis Association in Miranda de Ebro. Miranda de Ebro, Spain.

6.2. Reviewer of research articles:

- Comparative Biochemistry and Physiology since 2004.
- PLoS ONE since 2012.
- Neuroscience Letters since 2012
- Frontiers in Cell Neuroscience since 2013.
- Glia since 2014.
- Journal of Neuroinflammation since 2015.
- Drug Design Therapy since 2016.
- International Journal of Neuroscience since 2016.
- European Journal of Neurology since 2016.
- Neuroscience since 2017.
- Expert Opinion in Biological Therapy since 2018.

6.3. Grant reviewer:

- *Fondazione Italiana Sclerosis Multipla* since 2014.
- Ministerio de Ciencia y Tecnología de Argentina since 2015.
- Spanish Agency of Evaluation and Prospective since 2015.
- Polish Agency of Science since 2015.

6.4. Formative capacity:

- 3 Doctoral thesis
- 5 Master Thesis.
- 8 Degree Thesis.
- Four postdoc fellows.
- Three technicians.

6.5. Organization of Research and Academic Events:

- 2005. Member of the Organizing Local Committee of the International Meeting on Implications of Comorbidity for Etiology and Treatment of Neuropsychiatric Disorders. Fundación Cerebro y Mente. Mazagón, Spain.
- 2015. Organizer of the International Symposium "Immune system control of brain damage and repair" . 16º Meeting of the Spanish Society for Neuroscience. Granada, Spain.
- 2015. Co-organizador of the Extraordinary Summer Course "New future perspectives in multiple sclerosis". University of Castilla-La Mancha. Toledo, Spain.
- 2016. Director of the Summer Course "New advances and challenges in multiple sclerosis". Menéndez Pelayo International University. Santander, Spain.
- 2017. Organizing Committee of the 6th Spanish Glia Network Meeting. Alicante, Spain.
- 2017. Organizing Committee of the 1st Symposium of the Women in Neuroscience Committee of the Spanish Society for Neurosciences. Alicante, Spain.
- 2017. Director of the Summer Course "New advances and challenges in multiple sclerosis-IInd Edition". Menéndez Pelayo International University. Santander, Spain.
- 2018. Director of the Summer Course "New advances and challenges in multiple sclerosis-IIIrd Edition". Menéndez Pelayo International University. Santander, Spain.
- 2019. Director of the Summer Course "New advances and challenges in multiple sclerosis-IVth Edition". Menéndez Pelayo International University. Santander, Spain.
- 2020. Director of the Summer Course "New advances and challenges in multiple sclerosis-Vth Edition". Menéndez Pelayo International University. Santander, Spain.

6.6. Member of Committees and organizations

- Member of the Women in Neuroscience Committee of the Spanish Society for Neuroscience.
- Elected member of the Spanish Glia Network Board.
- Scientific Advisor of the Spanish Multiple Sclerosis Association in Toledo (ADEM-TO).