EUROPEAN MEDICINES AGENCY
SCIENCE MEDICINES HEALTH

Curriculum Vitae

Personal information

Renzo Mancuso

Work experience

Research experience & position

01/2024- Deputy Director VIB-UA Center for Molecular Neurology, Belgium.
07/2020- Group leader, VIB-UA Center for Molecular Neurology, Belgium.
10/2020- Associate professor, University of Antwerp, Belgium.
2019- 2020 Staff Scientist, VIB-Center for Brain and Disease, KU Leuven, Belgium.
2017-2019 Postdoctoral researcher, VIB-Center for Brain and Disease, KU Leuven, Belgium.
2015-2017 Postdoctoral researcher, Dept. of Biological Sciences, University of Southampton, UK.
2010-2014 Ph.D. Student, Institute of Neuroscience, Department of Cell Biology, Physiology and Immunology, Universitat Autonoma de Barcelona, Spain.

Education and training

Education / training

09/2010- 07/2014: PhD Neuroscience, Institute of Neuroscience and Department of Cell Biology, Physiology and Immunology, Universitat Autonoma de Barcelona, Spain.
Supervisor: Prof. Xavier Navarro Acebes.
09/2009- 07/2010: MSc Neuroscience, Institute of Neuroscience, Universitat Autonoma de Barcelona, Spain.
09/2005 - 07/2009: BSc Biology, Universitat Autonoma de Barcelona, Spain.

Additional information

Publications

Publications 2021-2025

h-index = 31; 7,403 citations (Google Scholar, June 2025)
The list below does not contain publications prior to 2021 nor publications on which Renzo Mancuso is listed as collaborator as part of a consortium. For a complete and live list of publications, see PubMed.

1. Fattorelli, N., Martinez-Muriana, A., Wolfs, L., Geric, I., De Strooper, B.,

Mancuso, R., 2021. Stem-cell-derived human microglia transplanted into mouse brain to study human disease. ***Nat Protoc*** 16, 1013–1033. https://doi.org/10.1038/s41596-020-00447-4

2. Paolicelli, R.C., Sierra, A., Stevens, B., Tremblay, M.-E., Aguzzi, A., Ajami, B., Amit, I., Audinat, E., Bechmann, I., Bennett, M., Bennett, F., Bessis, A., Biber, K., Bilbo, S., Blurton-Jones, M., Boddeke, E., Brites, D., Brône, B., Brown, G.C., Butovsky, O., Carson, M.J., Castellano, B., Colonna, M., Cowley, S.A., Cunningham, C., Davalos, D., De Jager, P.L., de Strooper, B., Denes, A., Eggen, B.J.L., Eyo, U., Galea, E., Garel, S., Ginhoux, F., Glass, C.K., Gokce, O., Gomez-Nicola, D., González, B., Gordon, S., Graeber, M.B., Greenhalgh, A.D., Gressens, P., Greter, M., Gutmann, D.H., Haass, C., Heneka, M.T., Heppner, F.L., Hong, S., Hume, D.A., Jung, S., Kettenmann, H., Kipnis, J., Koyama, R., Lemke, G., Lynch, M., Majewska, A., Malcangio, M., Malm, T., **Mancuso, R.**, Masuda, T., Matteoli, M., McColl, B.W., Miron, V.E., Molofsky, A.V., Monje, M., Mracsko, E., Nadjar, A., Neher, J.J., Neniskyte, U., Neumann, H., Noda, M., Peng, B., Peri, F., Perry, V.H., Popovich, P.G., Pridans, C., Priller, J., Prinz, M., Ragozzino, D., Ransohoff, R.M., Salter, M.W., Schaefer, A., Schafer, D.P., Schwartz, M., Simons, M., Smith, C.J., Streit, W.J., Tay, T.L., Tsai, L.-H., Verkhratsky, A., von Bernhardi, R., Wake, H., Wittamer, V., Wolf, S.A., Wu, L.-J., Wyss-Coray, T., 2022. Microglia states and nomenclature: A field at its crossroads. ***Neuron*** 110, 3458–3483. https://doi.org/10.1016/j.neuron.2022.10.020
3. Vicente-Rodríguez, M., **Mancuso, R.**, Peris-Yague, A., Simmons, C., Gómez-Nicola, D., Perry, V.H., Turkheimer, F., Lovestone, S., Parker, C.A., Cash, D., 2023. Pharmacological modulation of TSPO in microglia/macrophages and neurons in a chronic neurodegenerative model of prion disease. ***J Neuroinflammation*** 20, 92. https://doi.org/10.1186/s12974-023-02769-y
4. Walgrave, H., Penning, A., Tosoni, G., Snoeck, S., Davie, K., Davis, E., Wolfs, L., Sierksma, A., Mars, M., Bu, T., Thrupp, N., Zhou, L., Moechars, D., **Mancuso, R.**, Fiers, M., Howden, A.J.M., De Strooper, B., Salta, E., 2023. microRNA-132 regulates gene expression programs involved in microglial homeostasis. iScience 26, 106829. https://doi.org/10.1016/j.isci.2023.106829
5. Beckers, J., Tharkeshwar, A.K., Fumagalli, L., Contardo, M., Van Schoor, E., Fazal, R., Thal, D.R., Chandran, S., **Mancuso, R**., Van Den Bosch, L., Van Damme, P., 2023. A toxic gain-of-function mechanism in C9orf72 ALS impairs the autophagy-lysosome pathway in neurons. ***Acta Neuropathol Commun*** 11, 151. https://doi.org/10.1186/s40478-023-01648-0
6. Hou, P., Zielonka, M., Serneels, L., Martinez-Muriana, A., Fattorelli, N., Wolfs, L., Poovathingal, S., T'Syen, D., Balusu, S., Theys, T., Fiers, M., **Mancuso, R.**, Howden, A.J.M., De Strooper, B., 2023. The γ-secretase substrate proteome and its role in cell signaling regulation. ***Mol Cell*** 83, 4106-4122.e10. https://doi.org/10.1016/j.molcel.2023.10.029
7. Gruel, R., Bijnens, B., Van Den Daele, J., Thys, S., Willems, R., Wuyts, D., Van Dam, D., Verstraelen, P., Verboven, R., Roels, J., Vandamme, N., **Mancuso, R.**, Pita-Almenar, J.D., De Vos, W.H., 2024. S100A8-enriched microglia populate the brain of tau-seeded and accelerated aging mice. ***Aging Cell*** e14120. https://doi.org/10.1111/acel.14120
8. Mary, A., **Mancuso, R.**, Heneka, M.T., 2024. Immune Activation in Alzheimer Disease. ***Annu Rev Immunol*** 42, 585–613. https://doi.org/10.1146/annurev-immunol-101921-035222
9. **Mancuso, R.**, Fattorelli, N., Martinez-Muriana, A., Davis, E., Wolfs, L., Van Den Daele, J., Geric, I., Premereur, J., Polanco, P., Bijnens, B., Preman, P., Serneels, L., Poovathingal, S., Balusu, S., Verfaillie, C., Fiers, M., De Strooper, B., 2024. Xenografted human microglia display diverse transcriptomic states in response to Alzheimer's disease-related amyloid-β pathology. ***Nat Neurosci***. https://doi.org/10.1038/s41593-024-01600-y
10. Vandermeulen L, Geric I, Fumagalli L, Kreir M, Lu A, Nonneman A, Premereur J, Wolfs L, Policarpo R, Fattorelli N, De Bondt A, Van Den

Wyngaert I, Asselbergh B, Fiers M, De Strooper B, d'Ydewalle C, **Mancuso R**., 2024. Regulation of human microglial gene expression and function via RNAase-H active antisense oligonucleotides in vivo in Alzheimer's disease. ***Mol Neurodegener*** 24;19(1):37. https://doi.org/10.1186/s13024-024-00725-9.

11. Duggan, M.R., Gomez, G.T., Joynes, C.M., Bilgel, M., Chen, J., Fattorelli, N., Hohman, T.J., **Mancuso, R.**, Cordon, J., Castellano, T., Koran, M.E.I., Candia, J., Lewis, A., Moghekar, A., Ashton, N.J., Kac, P.R., Karikari, T.K., Blennow, K., Zetterberg, H., Martinez-Muriana, A., De Strooper, B., Thambisetty, M., Ferrucci, L., Gottesman, R.F., Coresh, J., Resnick, S.M., Walker, K.A., 2024. Proteome-wide analysis identifies plasma immune regulators of amyloid-beta progression. ***Brain Behav Immun*** 120, 604–619. https://doi.org/10.1016/j.bbi.2024.07.002
12. Lloyd, A.F., Martinez-Muriana, A., Davis, E., Daniels, M.J.D., Hou, P., **Mancuso, R.**, Brenes, A.J., Sinclair, L.V., Geric, I., Snellinx, A., Craessaerts, K., Theys, T., Fiers, M., De Strooper, B., Howden, A.J.M., 2024. Deep proteomic analysis of microglia reveals fundamental biological differences between model systems. Cell Rep 43, 114908. https://doi.org/10.1016/j.celrep.2024.114908
13. Preman, P., Moechars, D., Fertan, E., Wolfs, L., Serneels, L., Shah, D., Lamote, J., Poovathingal, S., Snellinx, A., **Mancuso, R.**, Balusu, S., Klenerman, D., Arranz, A.M., Fiers, M., De Strooper, B., 2024. APOE from astrocytes restores Alzheimer's Aβ-pathology and DAM-like responses in APOE deficient microglia. EMBO Mol Med. https://doi.org/10.1038/s44321-024-00162-7
14. Heneka, M.T., van der Flier, W.M., Jessen, F., Hoozemanns, J., Thal, D.R., Boche, D., Brosseron, F., Teunissen, C., Zetterberg, H., Jacobs, A.H., Edison, P., Ramirez, A., Cruchaga, C., Lambert, J.-C., Laza, A.R., Sanchez-Mut, J.V., Fischer, A., Castro-Gomez, S., Stein, T.D., Kleineidam, L., Wagner, M., Neher, J.J., Cunningham, C., Singhrao, S.K., Prinz, M., Glass, C.K., Schlachetzki, J.C.M., Butovsky, O., Kleemann, K., De Jaeger, P.L., Scheiblich, H., Brown, G.C., Landreth, G., Moutinho, M., Grutzendler, J., Gomez-Nicola, D., McManus, R.M., Andreasson, K., Ising, C., Karabag, D., Baker, D.J., Liddelow, S.A., Verkhratsky, A., Tansey, M., Monsonego, A., Aigner, L., Dorothée, G., Nave, K.-A., Simons, M., Constantin, G., Rosenzweig, N., Pascual, A., Petzold, G.C., Kipnis, J., Venegas, C., Colonna, M., Walter, J., Tenner, A.J., O'Banion, M.K., Steinert, J.R., Feinstein, D.L., Sastre, M., Bhaskar, K., Hong, S., Schafer, D.P., Golde, T., Ransohoff, R.M., Morgan, D., Breitner, J., **Mancuso, R.**, Riechers, S.-P., 2024. Neuroinflammation in Alzheimer disease. Nat Rev Immunol. https://doi.org/10.1038/s41577-024-01104-7
15. Fumagalli, L., Nazlie Mohebiany, A., Premereur, J., Polanco Miquel, P., Bijnens, B., Van de Walle, P., Fattorelli, N., **Mancuso, R.**, 2025. Microglia heterogeneity, modeling and cell-state annotation in development and neurodegeneration. Nat Neurosci. https://doi.org/10.1038/s41593-025-01931-4
16. Murphy, K.B., Hu, D., Wolfs, L., Rohde, S.K., Fauró, G.L., Geric, I., **Mancuso, R.**, De Strooper, B., Marzi, S.J., 2025. The APOE isoforms differentially shape the transcriptomic and epigenomic landscapes of human microglia xenografted into a mouse model of Alzheimer's disease. Nat Commun 16, 4883. https://doi.org/10.1038/s41467-025-60099-4
17. Masrori P*, Bijnens B*, Fumagalli F*, Davie K, Poovathingal SK, Meese T, Storm A, Hersmus N, Fazal R, van Biggelaar D, Asselbergh B, Gruel R, Van Den Daele J, Denton H, Polanco Miquel P, Manzella S, De Vos WH, Chandran S, Van Den Bosch L, Thal DR, **Mancuso R**[#], Van Damme P[#], Hexanucleotide repeat expansions in C9orf72 alter microglial responses and prevent a coordinated glial reaction in ALS. Nat Neurosci, Accepted. * Joint first author; # Joint corresponding author.

Projects

Grants & fellowships 2021-2025

2025-2028 **Research Foundation - Flanders (FWO) junior postdoctoral fellowship** to Anne Wienand: “Microglia-factories: iPSC-microglia as a platform to deliver biologicals in the brain for the treatment of frontotemporal dementia”, 01.10.2025 - 30.09.2028. Role: supervisor of fellow.

2025-2029 **Research Foundation - Flanders (FWO)** junior research project: “Decoding the Genetic Blueprint of Alzheimer's Disease in Human Microglia using In Vivo Single-Cell Perturbation Screens”, 01.01.2025-31.12.2028: €580,000, role: PI.

2025-2027 **BrightFocus Foundation Postdoctoral fellowship** to Laura Fumagalli: “Leveraging humanised microglia models to unravel C9orf72 gain and loss of function synergistic mechanisms in FTD”, 01.07.2025 - 30.06.2027. $200,000. Role: supervisor of fellow.

2025-2026 **Alzheimer’s Association AD Strategic Research Fund – “**Grand challenge: Define causal transcription factor networks that drive protective or pathogenic microglia phenotypes in Alzheimer’s Disease” has been approved for funding.” $364,000. role: PI.

2025-2026 **Stichting Alzheimer Onderzoek SAO Pilot Award** to Laura Fumagalli. “Xenotransplantation of iPSC-derived microglia to elucidate the impact of C9orf72 hexanucleotide repeat expansion on neuroinflammation and neurodegeneration.” 110,000 EUR. Role: supervisor.

2024-2028 **Research Foundation - Flanders (FWO) PhD fellowship** to Maxim Van Hoek. “Defining the impact of the iPSC-derived human microglial secretome in Alzheimer's disease employing ER-mediated TurboID proximity labelling in vivo.”. Salary support for 4 years, role: supervisor of fellow. 01.11.2024-31.10.2028.

2024-2027 **Department of Defense Peer Reviewed Alzheimer's Research Program - Transforming Research Award**: “Reduced combination of genetic variants to predict and stratify Alzheimer’s disease”, 01.10.2024-30.09.2027: $996,600 for RM. Role: PI (with Kristel Sleegers)

2024-2026 **Alzheimer’s Association Research Grant ABA – invite only**: “APOE modifiers of human microglia function in Alzheimer's disease” 01.01.2024 – 31.12.2026: $250,000, role: PI (with Kristel Sleegers).

2023-2024 **University of Antwerp Research Fund (BOF) “opvangmandaat” postdoctoral fellowship** to Laura Fumagalli. “Xenotransplantation of iPSC-derived microglia to elucidate the impact of C9orf72 hexanucleotide repeat expansion on neuroinflammation and neurodegeneration”. 01.10.2023-30.09.2024; € 48,000.00, role: supervisor of fellow.

2024-2026 **Stichting Alzheimer Onderzoek SAO Standard Award**: “Soluble transducers of human microglial toxicity in Alzheimer's disease”, 01.01.2024 - 31.12.2026: €300,000, role: PI.

2023-2027 **Research Foundation - Flanders (FWO) Strategic Basic Research PhD fellowship** to Lena Jutz. “Leveraging the microglial surface proteome to engineer a CAR-microglia”. Salary support for 4 years, role: supervisor of fellow. 01.11.2023-31.10.2027

2023-2027 **Research Foundation - Flanders (FWO) PhD fellowship** to Baukje Bijnens. “Partners in crime? Deciphering microglia astrocyte communication in Alzheimer’s disease”. Salary support for 4 years, role: supervisor of fellow. 01.11.2023-31.10.2027.

2024-2026 **Marie Skłodowska-Curie Actions postdoctoral fellowship** to Alma Mohebiany. “Microglia-neuron communication in health and disease” 01.09.2024-31.08.2026; € 191,760.00, role: supervisor of fellow.

2024-2026 **Alzheimer’s Association AD Strategic Fund: Endolysosomal Activity in Alzheimer's** “Impact of ABCA7 mutations on the microglial endolysosomal function”, 01.01.2024-31.12.2026. $300,000, role: PI.

2023-2027 **FWO Strategic Basic Research Project:** “Enhancer-AI: AI-driven modelling and design of cell type specific enhancers for gene therapy”, 01.10-2023-30.09-2027, €1,666,027, role: co-PI (PI: Stein Aerts, KU Leuven).

2023-2025 **MSCA Seal of Excellence postdoctoral fellowship** to Alma Mohebiany: “Microglia-neuron communication in health and disease”, 01.10.2023-30.09.2025, role: supervisor of fellow.

2023-2026 **Alzheimer’s Association Research Grant**: “Exploring the human microglial secretome in Alzheimer's disease” 01.07.2023 – 30.06.2026: $199,980, role: PI.

2023-2025 **Geneeskundige Stichting Koningin Elisabeth (GSKE) interuniversity project**. **“**Dissecting the molecular basis of microglia-synapse communication in AD” 01.01.2023-31.12.2025: € 105,000.00, role: PI (with Joris De Wit, KU Leuven).

2023-2027 **ERC Starting Grant**: “Deciphering the microglia-neuron interactions in human Alzheimer's disease” 01.01.2023 – 31.12.2027: €1,500,000, role: PI.

2023-2025 **Alzheimer’s Association Research Grant**: “APOE modifiers of human microglia function in Alzheimer's disease” 01.01.2023 – 31.12.2025: $300,000, role: PI (with Kristel Sleegers, VIB-UAntwerp CMN).

2022-2026 **Research Foundation - Flanders (FWO) PhD fellowship** to Jessie Premereur. “From gene to function: Unraveling the molecular mechanisms of Alzheimer-associated ABCA7 risk variants in microglia biology.” 01.11.2022-31.10.2026. Salary support for 4 years, role: supervisor of fellow.

2023-2026 **Research Foundation - Flanders (FWO) PhD fellowship** to Gonzalo Leguia Fauro. “From population-based study to functional biology: combinatorial effect APOE and low-risk genetic risk factors of Alzheimer's Disease in the microglia response to amyloid pathology.” 01.11.2022-31.10.2026. Salary support for 4 years, role: supervisor of fellow.

2022-2026 **BOF DOCPRO4:** “Deciphering the contribution of progranulin deficient human microglia in the initiation and modification of frontotemporal dementia.” 01.10.2025=2 – 30.09.2026: Salary support for PhD student for 4 years, role: supervisor of fellow.

2022-2025 **Research Foundation - Flanders (FWO)** Hercules Large-Scale Research Infrastructure Grant: “3D-super-

resolution to cryo-Electron Microscopy to study nanoscale subcellular dynamics and structure that alter in neurodegenerative diseases – 3SURE MIND", 01.05.2022-30.04.2026: €1,801,760, role: co-PI (PI: Wim Annaert, KU Leuven).

2022-2025 **Research Foundation - Flanders (FWO)** junior research project: "Xenotransplantation of iPSC derived microglia to decipher the impact of Progranulin in neuroinflammation and neurodegeneration", 01.01.2022-31.12.2025: €518,543, role: PI

2022-2025 **BOF-TOP project**: "Xenotransplantation of genetically engineered iPSC-derived microglia and neurons to decipher the cell-type specific interplay of Progranulin and TMEM106B in neuroinflammation and neurodegeneration", 01.01.2022-31.12.2025: €500,000, role: PI (with Rosa Rademakers, VIB-UAntwerp CMN).

2022-2024 **Marie Skłodowska-Curie Actions postdoctoral fellowship** to Teun Klein Gunnewiek. "Microglia-synapse molecular interactions in neurodegenerative disorders" 01.06.2022-31.05.2024; € 191,760.00, role: supervisor of fellow.

2022-2024 **Stichting Alzheimer Onderzoek SAO Standard Award**: "Deciphering the molecular mechanisms of ABCA7 risk variants in microglia in AD", 01.01.2022 - 31.12.2024: €249,987, role: PI.

2022-2023 **University of Antwerp Research Fund (BOF) "opvangmandaat" postdoctoral fellowship** to Alma Mohebiany. "All-for-one and one-for-all: Microglia-centric networks with neurons and astrocytes". 01.10.2022-30.09.2023; € 48,000.00, role: supervisor of fellow.

2021-2025 **BOF DOCPRO4**: "From gene to function: Unraveling the molecular mechanisms of Alzheimer-associated ABCA7 risk variants in microglia biology using patient-derived iPSCs and chimeric mice models." 01.10.2021 – 30.09.2025: Salary support for PhD student for 4 years, role: supervisor of fellow.

2021-2022 **Alzheimer's Association RAPID grant**: "Microglia and neuroinflammation: transducers of Ab toxicity in human AD", 01.09.2021 - 31.08.2022: $48,400, role: PI.

2021-2023 **BrightFocus Foundation Standard Award**: "From genetics to the cellular phase of Alzheimer's disease: untangling the role of lipid pathways in microglia responses to amyloid pathology", 07.01.2021 - 06.30.2023, $199,568.

Memberships

2025- Member of the American Association for the Advance of Science (AAAS)

2023- Member of the Belgian Neuroscience Association

2022- Member of the International Society of Frontotemporal Dementia (ISFTD)

Other Relevant Information

Dr. Mancuso serves as a reviewer for several high-profile journals, including *Cell*, *Science*, *Nature Neuroscience*, *Nature Communications*, *Science Translational Medicine*, and the *Journal of Clinical Investigation*,

among others. He also reviews grant applications for major funding bodies such as the Medical Research Council (MRC), the European Research Council (ERC), the Fondation pour la Recherche Médicale (FRM), the Alzheimer's Association (US), Alzheimer's Research UK, and the Multiple Sclerosis Society. He is a member of the advisory board of Alector and actively contribute to the scientific community through my involvement in organizing leading conferences, including the 7th Venusberg Neuroinflammation Conference (2023), the VIB Periphery–Brain Interface & CNS Disease Meeting (2024), and the upcoming VIB Neuroimmunology Conference (2026).