

<b>Part A. PERSONAL INFORMATION</b>		<b>CV date</b>		29/01/2022
First and Family name	Ignacio Lizasoain Hernández			
Social Security, Passport, ID number	05378715G	Age	59	
Researcher codes	WoS Researcher ID (*)	<a href="#">K-9844-2014</a>		
	SCOPUS Author ID(*)	<a href="#">6504454208</a>		
	Open Researcher and Contributor ID (ORCID) **	<a href="#">0000-0002-6028-7379</a>		

(\*) At least one of these is mandatory

(\*\*) Mandatory

### A.1. Current position

Name of University/Institution	Universidad Complutense de Madrid. Facultad de Medicina		
Department	Pharmacology and Toxicology		
Address and Country	Avda Complutense s/n. 28040 Madrid (Spain)		
Phone number	629054711	E-mail	<a href="mailto:Ignacio.lizasoain@med.ucm.es">Ignacio.lizasoain@med.ucm.es</a>
Current position	Full Professor	From	15/11/2007
Key words	cerebrovascular disease - stroke – immunity - inflammation		

### A.2. Education

Degree	University/Institution	Year
M.D. (Medicine)	Universidad Complutense de Madrid	1986
M.D., Ph.D. (Medicine)	Universidad Complutense de Madrid	1989
Postdoctoral training	Wellcome Res Lab, Beckenham, UK	1991-1995
Visiting Scientist	Massachusetts General Hospital/Harvard Medical School	2010

### A.3. JCR articles, h Index, thesis supervised...

- Six “six-years” accredited research terms (sexenios; 5 of research and 1 of transfer of knowledge). Latest one: 2011-2016 (research); 2012-2017 (transfer of knowledge).
- Indexed articles: 172 (PubMed); 268 (Web of Science -WoS-); 300 (Google Scholar).
- Q1 publications: 70%; D1 publications 30%.
- Citations (December 2021): >11000 (WoS), >11000 (Scopus), >16000 (Google Scholar).
- H-index (December 2021): 55 (WoS), 58 (Scopus), 69 (Google Scholar; 41 in the last 5 years)
- PhD theses supervised and defended: 24.

### Part B. CV SUMMARY (max. 3500 characters, including spaces)

#### TRAINING AND QUALIFICATIONS:

Since 1986, I work in the Department of Pharmacology at the School of Medicine of Universidad Complutense (UCM) in Madrid (Spain). I obtained my Medical Doctor in 1986 and my PhD in Medicine in 1992 (Premio Extraordinario). I had positions such as Aggregate, Lecturer, Associate and since 2007 I have a position as Full Professor. I was External Examiner of the Trinity College of Dublin (School of Pharmacy and Pharmaceutical Sciences. University of Dublin, Ireland) from 2008 to 2010. In addition, I am the Co-Coordinator of the [Neurovascular Research Unit](#) of the Universidad Complutense.

Post-doctoral training: Wellcome Res Lab, UK (Prof. S Moncada) as Fellow (Spanish MEC) and as Marie Curie Postdoctoral Fellow (EC) (1991-1995). Visiting scientist: Massachusetts General Hospital/Harvard Medical School (Prof. Eng H Lo; July-August 2010).

Head of Department Pharmacology at Complutense Medical School (2006-2010). Coordinator Campus of Excellence Moncloa. (2010) and Co-Coordinator Cluster i-Health Campus Excellence Moncloa. (2009-2019). Vice-provost of Research and Doctoral studies at UCM (2015-2019).



## MAIN DOMAIN OF RESEARCH:

Expertise of 30 years in the cerebrovascular field, from a basic point of view but also with a strong translational projection, developed through a tight partnership with clinical groups. Leading role in the demonstration of novel pharmacological targets on neuroprotection and neuro-repair (neurogenesis, angiogenesis and synaptic plasticity) in in vivo and in vitro experimental stroke, new neuroimaging techniques, and development of animal models for the study of stroke.

## RESEARCH MANAGEMENT AND STRATEGY ACTIVITIES:

Evaluator for Spanish ANEP, Fondo de Investigaciones Sanitarias (FIS) and Comunidad de Madrid since 1999. Evaluator for Ministero dell'Istruzione, dell'Università e della Ricerca, Italy; German Israeli Foundation for Scientific Research and Development; Israel Science Foundation; Food and Health Bureau, The People's Republic of China; Swiss National Science Foundation; Ministerio de Ciencia, Tecnología e Innovación Productiva (Foncyt, Argentina) since 1999; Fundação para a Ciência e a Tecnologia (Portugal) and for European Commission since 2016.

## GRANT SUPPORT:

Participation in several funded grants, from both public and private sources. As principal investigator, I have managed 4 international grants, as a whole or as partner coordinator (Leducq Found., Human Capital and Mobility programme ERB4001GT921179; NATO Science Programme and Cooperation Partners. Collaborative Research Grant; National Institutes of Health. USA. 3R01NS044025-06S1), more than 30 national grants funded by the Spanish "Plan Nacional de I+D+I" (FIS, SAF, Integrated Actions and Net research programmes), more than 15 by other public agencies (Madrid Regional Government, etc) and several by private companies.

## PUBLICATIONS:

He has published extensively in neuroscience and neurological sciences especially in the neurovascular research field (stroke). His scientific production includes more than 170 JCR papers with more than 10.000-16.000 total citations and "h-index" of 58/69 (Scopus/Google scholar, December-2021). The complete list of publications can be found at Scopus and Orcid (nº 0000-0002-6028-7379). He has published in journals such as: Science, Nat Immunol, PNAS USA, Circulation, J Exp Med, J Clin Invest, Ann Neurol, Stroke, Neurology, Mol Ther, J Neurosci, etc. He is co-editor of 6 books, co-author of more than 60 chapters of books, co-inventor of 3 patents and co-director of 24 PhD Thesis (8 of them with International Mention and Extraordinary Prize).

## Part C. RELEVANT MERITS

### C.1. Publications

<https://www.ncbi.nlm.nih.gov/pubmed/?term=lizasoain+i>

1. Lo EH, Albers G, Dichgans M, Donnan G, Esposito E, Foster R, Howells D, Huang Y, Ji X, Lee S, Li W, Liebeskind D, **Lizasoain I**, Mandeville ET, Moro MA, Ning M, Sakadzic S, Saver JL, Selim M, Tiedt S, Zhang F, Buchan AM. Circadian Biology and Stroke. *Stroke*. 2021. 52:2180-2190. FI: 7.1. (2019). 1D.
2. Adrover JM, Aroca-Crevillén A, Crainiciuc G, Ostos F, Rojas-Vega Y, Rubio-Ponce A, Cilloniz C, Bonzón-Kulichenko E, Calvo E, Rico D, Moro MA, Weber C, **Lizasoain I**, Torres A, Ruiz-Cabello J, Vázquez J, Hidalgo A. Programmed "disarming" of the neutrophil proteome reduces the magnitude of inflammation. *Nat Immunol*. 2020. 21:135-144. FI: 20.479. (2019). 1D.
3. Peña-Martínez C, Durán-Laforet V, García-Culebras A, Ostos F, Pérez-Ruiz A, Bravo-Ferrer I, Hernández-Jiménez M, Ballenilla F, Díaz-Guzmán J, Pradillo JM, **Lizasoain I\***, Moro MA\*. Pharmacological modulation of neutrophil extracellular traps reverses thrombotic stroke t-PA-resistance. *Stroke*. 2019; 50:3228-3237. FI: 7.190. (JCR/2019). 1D
4. Palma-Tortosa S, Hurtado O, Pradillo JM, Ferreras-Martín R, García-Yébenes I, García-Culebras A, Moraga A, Moro MÁ, **Lizasoain I**. Toll-like receptor 4 regulates subventricular zone proliferation and neuroblast migration after experimental stroke. *Brain Behav Immun*. 2019. 80: 573-582. FI: 6.633. (JCR/2019). 1D
5. García-Culebras A, Durán-Laforet V, Peña-Martínez C, Moraga A, Ballesteros I, Cuartero MI, de la Parra J, Palma-Tortosa S, Hidalgo A, Corbí AL, Moro MA\*, **Lizasoain I\***. Role of TLR4 (Toll-Like



- Receptor 4) in N1/N2 Neutrophil Programming After Stroke. *Stroke* 2019. 50: 2922-2932. FI: 7.190. (JCR/2019). 1D.
6. Cuartero MI, de la Parra J, Pérez-Ruiz A, Bravo-Ferrer I, Durán-Laforet V, García-Culebras A, García-Segura JM, Dhaliwal J, Frankland PW, **Lizasoain I**, Moro MA. Abolition of aberrant neurogenesis ameliorates cognitive impairment after stroke in mice. *J Clin Invest*. 2019. 129: 1536-1550. FI: 11.864. (JCR/2019) 1D.
  7. García-Yébenes I, García-Culebras A, Peña-Martínez C, Fernández-López D, Díaz-Guzmán J, Negro P, Avendaño C, Castellanos M, Gasull T, Dávalos A, Moro MA, **Lizasoain I**. Iron Overload Exacerbates the Risk of Hemorrhagic Transformation After tPA Administration in Thromboembolic Stroke Mice. *Stroke*. 2018. 49: 2163-2172. FI: 6.046. (JCR/2018). 1D.
  8. Fernández G, Moraga A, Cuartero MI, García-Culebras A, Peña-Martínez C, Pradillo JM, Hernández-Jiménez M, Sacristán S, Ayuso MI, Gonzalo-Gobernado R, Fernández-López D, Martín ME, Moro MA, González VM, **Lizasoain I**. TLR4-Binding DNA Aptamers Show a Protective Effect against Acute Stroke in Animal Models. *Mol Ther*. 2018. 26: 2047-2059. FI: 8.402. (JCR/2018) 1D.
  9. Sreerankumar V, Radovanovic I, Ballesteros I, Cuartero MI, Bilbao I, Nacher M, Pitaval C, Adrover JM, Rossaint J, Fukui Y, Mcever RP, Filippi MD, Zarbock A, **Lizasoain I**, Ruiz-Cabello J, Moro MA, Hidalgo A. Neutrophils scan for activated platelets to initiate inflammation. *Science*. 2014. 346: 1234-8. FI: 33.611. (JCR/2014) 1D.
  10. Cuartero MI, Ballesteros I, Parra J, Harkin AL, Abautret-Daly A, Fernández-Salguero P, Corbí AL, **Lizasoain I**, Moro MA. Deleterious role of the aryl hydrocarbon receptor and its agonist I-kynurenin in acute ischemic brain damage. *Circulation*. 2014. 130: 2040-51. FI: 15.073. (JCR/2014) 1D

## C.2. Research projects and grants as PI

- PRINCIPAL INVESTIGATOR (PI): María A Moro, Ignacio Lizasoain. COORDINATOR: Eng H Lo, Alastair Buchan. REFERENCE Nº: [TNE-21CVD04](#). TITTLE: Leducq Trans-Atlantic Network of Excellence on Circadian Effects in Stroke. FUNDING ENTITY: Leducq Foundation. DURATION: **2022-2026**. BUDGET: \$7M; Madrid NET: \$913.577.
- PI: I Lizasoain. REFERENCE Nº: RD21/0006. TITTLE: RICORS-ICTUS. Enfermedades Vasculares Cerebrales. ENTITY: Ministerio de Ciencia e Innovación. Instituto Salud Carlos III. DURATION: **2022-2024**. BUDGET: 587.000€. COORDINATOR NET: I [Lizasoain](#). Total budget 5M€.
- PI: Ignacio Lizasoain. REFERENCE Nº: PI20/00535. TITTLE: NETs in STROKE: Immunothrombosis, aging and infection. (NETsTROKE). FUNDING ENTITY: Ministerio de Ciencia e Innovación. Instituto Salud Carlos III. DURATION: **2021-2023**. BUDGET: 273.000.
- PI: Ignacio Lizasoain. REFERENCE Nº: PI17/01601. TITTLE: Nuevas dianas del TLR4 en el ictus: la interacción neutrófilo-plaqueta en los fenómenos de inflamación, hemorragia y trombosis. Estudio traslacional básico-clínico. FUNDING ENTITY: Ministerio de Economía y Competitividad. Instituto Salud Carlos III. DURATION: **2018-2020**. BUDGET: 255.000.
- PI: Ignacio Lizasoain. REFERENCE Nº: SAF2014-52225-R. TITTLE: Papel del TLR4 plaquetario en el ictus. FUNDING ENTITY: Ministerio de Economía y Competitividad. DURATION: **2015-2017** BUDGET: 300.000.
- PI: Ignacio Lizasoain. REFERENCE Nº: INVICTUS PLUS RD16/0019/0009. TITTLE: Red de Enfermedades Vasculares Cerebrales (INVICTUS PLUS). FUNDING ENTITY: Ministerio de Sanidad y Consumo. DURATION: **2017-2020**. BUDGET: 240.000.
- PI: Ignacio Lizasoain. REFERENCE Nº: INVICTUS RD12/0014/0003. TITTLE: RETICS. Enfermedad Vascular Cerebral (ICTUS). FUNDING ENTITY: Ministerio de Sanidad y Consumo. DURATION: **2013-2016**. BUDGET: 240.720.
- PI: Ignacio Lizasoain. REFERENCE Nº: B2017/BMD-3688. TITTLE: Imagen multimodal de la respuesta terapéutica a estrategias multidiana en enfermedades neurológicas. MULTI-TARGETS&VIEW-CM. FUNDING ENTITY: Comunidad de Madrid. DURATION: **2018-2021**. BUDGET: 75.100.
- PI: Ignacio Lizasoain. REFERENCE Nº: RTC-2017-6283-1. TITTLE: SAFETOLL - Desarrollo de aplicaciones terapéuticas de ApTOLL en enfermedades vasculares y autoinmunes. FUNDING ENTITY: MINECO. DURATION: **2018-2019**. BUDGET: 86.855



- PI: Ignacio Lizasoain. REFERENCE Nº: RTC-2015-3741-1. TITTLE: Desarrollo preclínico de una molécula basada en tecnología de aptámeros específica de TLR-4 y de aplicación en Ictus Agudo y Enfermedades Cardiovasculares (Infarto de Miocardio). FUNDING ENTITY: MINECO. DURATION: **2015-2017** BUDGET: 89.855

### C.3. Contracts as PI

- PRINCIPAL INVESTIGATOR (PI): A Serrano, I Lizasoain. TITTLE: Remodelación inmunomediada de la pared vascular y tejidos asociados como principal responsable del estado protrombótico asociado a COVID-19: Síndrome autoinmune de coagulación vascular localizada. FUNDING ENTITY: Fundación Mutua Madrileña. DURATION: **2021-2023**. BUDGET: 90.000
- PI: Aptus-Biotech/ Grupo UCM: Ignacio Lizasoain. REFERENCE Nº: IDI-20130571. TITTLE: Proyecto ApTLR: Desarrollo de aptámeros moduladores de la actividad de receptores TLR4 en la enfermedad cerebrovascular (ictus). FUNDING ENTITY: Centro para el Desarrollo Tecnológico Industrial CDTI. DURATION: **2013-2014**. BUDGET: 62.000.
- PI: Ignacio Lizasoain. TITTLE: Diseño de modelos para el desarrollo de nuevas terapias neuroreparadoras en ictus. FUNDING ENTITY: CIDEM-Ferrer Internacional SA. DURATION: **2007-2009**. BUDGET: 530.000 €

### C.4. Patents

- Inventors: Fernández G, González VM, Lizasoain I, Martín ME, Moraga A, Moro MA. Title: Aptamers specific for tlr-4 and uses thereof. Patent No.: US10196642B2. PCT Application No.: PCT/EP2015/064277. Application: 2015-06-24. Publication: **2019-02-05**.
- Inventors: Boscá L, De Castro F, Fernández B, Hernández-Jiménez M, Lizasoain I, Moro MA, Piñeiro D, Pérez D, Segarra D, Zarabozo ME, Zaragoza C. Title: Treatment of TLR4 mediated diseases and conditions with aptamers targeting TLR-4. Patent No.: WO2020230108A1. PCT Application No.: PCT/IB2020/054654. Application: 2020-05-16. Publication: **2020-11-19**.

These international patents have been the result of the development of an aptamer (publication: Mol Ther. 2018) and have allowed us to obtain different public and private contracts that have allowed us to complete the preclinical phase and enter Phase I and II clinical trials of ApTOLL (Phase I trial: [NCT04742062](#); and Phase Ib/IIa trial: [NCT04734548](#)).

### C5. Management activities/other merits

- Editor of "Velazquez. Farmacología básica y clínica". 17th (Editorial Médica Panamericana, Madrid 2004, ISBN: 84-7903-722-9), 18th (Editorial Médica Panamericana, Madrid 2008, ISBN: 978-84-9835-168-2), and 19th editions (2018, ISBN: 6078546074 ISBN-13: 9786078546077). Editor of "Manual de Farmacología Básica y clínica / Velázquez". 1st edition (Editorial Médica Panamericana, Madrid, 2012, ISBN: 978-84-9835-437-9).

### C6. TRANSFER

- "Sexenio de transferencia" in the 2018 call of the PI.
- The group also obtained the Technology and Knowledge Transfer Award Universidad Complutense de Madrid 2018 entitled: "Excellence in Transfer. Biomedical and Health Sciences Area".

### C7. THESES SUPERVISED.

24 doctoral theses in total (**8 in the last 5 years -in blue-**). All of them have obtained the highest grade, 6 of them obtained Extraordinary Prize (EP) and 8 of them have been Theses with "Doctor Europeus" or International Mention (IM). They are listed below with the initials of the doctors, the year of reading and the awards: JdA (1998), AC (2000), OH (2002), JLM (2003), LM (2003), AC (2003), MPP (2007), JRC (2007), JMP (2008, IM, PE), DFL (2009, IM, PE), JGZ (2011), IB (2012), MIC (2013, PE), IGY (2014, PE), AM (2014, PE), VG (2016), **AGC (2017, IM)**, **SPT (2017, IM)**, **JdIP (2018, PE, IM)**, **IBF (2018)**, **VM (2019)**, **ASC (2020, IM)**, **CPM (2020, IM)**, **VDL (2020, IM)**.