

CURRICULUM VITAE

STEFANO ESPINOZA

Personal details

Date of birth: 18/04/1979

Nationality: Italian

Present address:

Via Amendola 3/4

16145 Genova (GE) Italy

Mobile: +39 333 9962074

E-mail: stefanoespy@libero.it

E-mail: stefano.espinoza@iit.it

Positions

- **March 2023- Present:** Assistant Professor (RTDB), Università del Piemonte Orientale (UPO) Department of Health Sciences and Research Center on Autoimmune and Allergic Diseases (CAAD), Novara, Italy.
- **January 2020- March 2023:** Researcher at the Istituto Italiano di Tecnologia in the Central RNA Lab, Genova, Italy
Supervisor: Prof. Stefano Gustincich
Study of non-coding RNA that increase protein expression (SINEUPs) as therapeutic option for neurological and neurodevelopmental disorders.
- **June 2016- December 2019:** Post-doctoral fellow at the Istituto Italiano di Tecnologia in the Neuroscience and Brain Technologies Department, Genova, Italy
Supervisor: Prof. Stefano Gustincich
Study of non-coding RNA that increase protein expression (SINEUPs) as therapeutic option for Parkinson's Disease.
- **June 2010 –June 2016:** Post-doctoral fellow at Istituto Italiano di Tecnologia in the Neuroscience and Brain Technologies Department, Genova, Italy
Supervisor: Prof. Raul Gainetdinov
Study of TAAR1 and TAAR5 physiology and their modulation of monoamine systems in psychiatric disorders.
HDAC involvement in dopamine-dependent neurodegeneration
- **January 2007 – June 2010:** PhD Fellow at Department of Experimental Medicine (Di.Me.S.), University of Genova
Supervisor: Prof. Ernesto Fedele
Role of TAAR1 in the modulation of dopaminergic system
- **November 2008 – May 2009 :** Visiting fellow at Duke University, Durham, NC
Supervisor: Prof. Marc Caron
BRET assays to study cAMP dynamics and heterodimerization between TAAR1 and D2 receptors

- **May 2005 – June 2008** : Research scientist at Rottapharm S.p.A. in Monza (MI), Pharmacology Department, Laboratory of Neurochemistry
Supervisor: Dr. Marco Lanza
Characterization and development of compounds with antipsychotic activity and for neuropathic pain.
- **October 2004 – May 2005** : Fellowship at Department of Experimental Medicine (Di.Me.S.), University of Genoa.

Education

- **2007-2010** – Ph.D. in “Pharmacology and Toxicology” at the Department of Experimental Medicine (Di.Me.S.), University of Genoa.
- **2004** – M.S. Degree in Chemistry and Pharmaceutical Technologies (final mark: 110/110) at University of Genoa. Degree thesis title: **“Characterization of the phosphodiesterases that metabolise cGMP: a *in vivo* study trough intracerebral microdialysis”**
- **1998** – High school diploma at liceo scientifico Luigi Lanfranchi, Genoa

Mentorship

Supervision of PhD students (Liudmila Mus, 2011-2014; Placido Illiano, 2012-2015) and graduate student (Federica Dell’Arco Talarico, 2015). Several graduate students since 2021 at the Università del Piemonte Orientale.

Journals referee:

Acta Neurobiologiae Experimentalis
CNS drug target
Scientific Reports
Pharmacological Research
Frontiers in behavioral Neuroscience
Cerebral Cortex
Frontiers in Endocrinology
Developmental Psychobiology
Neurobiology of Disease

Invited speaker at the following conferences:

Stress and Behaviour, St. Petersburg, May 16-19, 2012

Society for Neuroscience, New Orleans, October 13-17, 2012

European College of Neuropsychopharmacology (workshop), Nice, 7-10 March, 2013

European College of Neuropsychopharmacology (annual meeting), Barcelona, October 5-9, 2013

Neuronus, Krakow, 25-27 April, 2014

Experimental Biology (ASPET), Boston, 28 March-1 April 2015

Stress and Behaviour, St. Petersburg, May 15-19, 2015

EPHAR, Istanbul, June 28-30, 2016

Mediterranean Neuroscience Society (MNS), Malta, 12-15 June, 2017

European College of Neuropsychopharmacology (annual meeting), Copenhagen, September 7-10, 2019

American Society of Gene and Cell Therapy (ASGT), Boston, 12-15 May, 2020

The European Chemoreception Research Organization (ECRO), Dresden, 17-18 September 2020

Mediterranean Neuroscience Society (MNS), Dubrovnik, 29 May- 2 June, 2022

Società Italiana di Psichiatria Biologica (SIPB), Napoli, 24-27 October, 2023

Organized Symposium:

Società Italiana di Neuroscienze (SINS), Rome 3-5 October 2013

Mediterranean Neuroscience Society (MNS), Pula, 12-15 June, 2015

Società Italiana di Neuroscienze (SINS), Cagliari 8-11 October 2015

Società Italiana di Neuroscienze (SINS), Brescia 9-12 September 2021

Honors, Award and Editorial roles

- **Qualification** (abilitazione) to become Associate Professor in **Pharmacology** and **Applied Biology**
- **Contributor** in the subcommittee for the Dopamine receptors of the International Union of Basic and Clinical Pharmacology Committee on Receptor Nomenclature and Drug Classification (NC-IUPHAR. <https://doi.org/10.2218/gtopdb/F20/2019.4>.
<https://www.guidetopharmacology.org/GRAC/FamilyDisplayForward?familyId=20#contributors>
- **Associate Editor**, Frontiers in Neuroscience, Frontiers in Pharmacology, Neuropharmacology section
- **Guest Associate Editor**, organizing a **Special Issue** in Frontiers in Pharmacology
- **Review Editor**, Frontiers in Chemistry (Medicinal and Pharmaceutical Chemistry)
- **Review Editor**, Frontiers in Endocrinology (Molecular and Structural Endocrinology)
- **Review Editor**, Frontiers in Genome Editing
- **Travel grant for the following conferences:**

European College of Neuropsychopharmacology, Barcellona, 2013

Experimental Biology (ASPET), Boston, USA, 2015

EPHAR, Istanbul, June 28-30, 2016

FENS, Berlin, 7-11 July 2018

Partecipazione al collegio di dottorati Titolo: "FOOD, HEALTH & LONGEVITY" (DOT197N4XY)

Anno accademico di inizio: 2023/2024 - Ciclo: 39 Coordinatore Responsabile FOLLENZI Antonia

Ateneo: Università degli Studi del PIEMONTE ORIENTALE "Amedeo Avogadro"-Vercelli

Grant expert peer reviewers in the REPRISE database of the Italian Ministry of Universities and Research (MUR).

Teaching

Seminar at the Department of Neurology, UCL (London, UK), 01/03/2018

Lecturer at the PhD school at the St. Petersburg State University (St. Petersburg, Russia), 2-6/12/2019

Seminar at Neuroscience Institute Cavalieri Ottolenghi (Torino, Italy), 07/02/2020

Seminar at the Department of Neurology, UCL (London, UK), 15/05/2020

Lecturer at the PhD school at the St. Petersburg State University (St. Petersburg, Russia), 10/10/2020

Lecturer at the PhD school at the St. Petersburg State University (St. Petersburg, Russia), 02/10/2021

Course of **Genetics of the eucariotics** (students in Biotechnology), University of Eastern Piedmont (Novara), 2020-2021, 2021-2022, 2022-2023

Research Support

PRIN: PROGETTI DI RICERCA DI RILEVANTE INTERESSE NAZIONALE – Bando 2022 PNRR. Decoding dysfunctional RNA transcription and processing by dominant haploinsufficiency in Autism Spectrum Disorders (ASD): rescue by SINEUP translational regulators. 2023-2025 as co-applicants, 88.000 euros

Fondazione Italiana per l'Autismo, Bando 2022. SINEUP RNAs: una nuova piattaforma di molecole a RNA per il trattamento dell'aploinsufficienza nei disturbi dello spettro autistico (DSA). 2023-2025 as co-applicant, 139.000 euros

SFARI, Simons Foundation Autism Research Initiative-2022 Genomics of ASD. SINEUP RNAs: a new platform for treating haploinsufficiency in Autism Spectrum Disorders (ASD). 2023-2025 as co-applicant, 176.000 GBP

GOSH Charity and Sparks National Funding Call. SINEUP-Nav: an innovative approach to cure Dravet Syndrome. 200.000 pounds for 2 years as co-applicant

Telethon seed grant (GSP19002_PAsGlut009), glut-1 deficiency: new therapeutic strategies to increase glucose. 2020-2022, 50.000 euros as co-PI.

AIMS Award (Atomwise). Identification of small molecule inhibitors of Trace Amine-Associated Receptor 5 (TAAR5). 2020-2022. Two years as PI.

ASPIRE 2018: SINEUPs, a molecular tool to improve safety and efficacy of AAV gene therapy for hemophilia. 220.000 US dollars for 2 years. Two centers as Co-PI (IIT 75.000 US Dollars).

Roche Italy 2018: SINEUPs, un nuovo strumento per aumentare l'efficacia e la sicurezza dei vettori AAV nella terapia genica per l'emofilia. 50.000 euros for 18 months as PI.

2015-2016. Founding institution: Orion Pharma. Evaluation of the rationale for using TAAR1 agonists in the treatment of cognitive dysfunction in Alzheimer disease. 50.000 euro as Co-PI

Patents

FUNCTIONAL NUCLEIC ACID MOLECULES DIRECTED TO TARGETS FOR NERVOUS SYSTEM DISORDERS. International Publication Number WO 2022/200774 A1.

Patent pending: multiSINEUP RNA targets multiple mRNA at the same time. Date of filing: 26 May 2022. Application Number: 2207796.0

Complete list of publications, 49 peer-reviewed articles (h-index 24, total citations 1800, Scopus)

1. Nicoli A, Weber V, Bon C, Steuer A, Gustincich S, Gainetdinov RR, Lang R, **Espinoza S***, Di Pizio A*. Structure-Based Discovery of Mouse Trace Amine-Associated Receptor 5 Antagonists. *J Chem Inf Model*. 2023 Nov 13;63(21):6667-6680. doi: 10.1021/acs.jcim.3c00755.
2. Cichero E, Francesconi V, Casini B, Casale M, Kanov E, Gerasimov AS, Sukhanov I, Savchenko A, **Espinoza S**, Gainetdinov RR, Tonelli M. Discovery of Guanfacine as a Novel TAAR1 Agonist: A Combination Strategy through Molecular Modeling Studies and Biological Assays. *Pharmaceuticals* (Basel). 2023 Nov 20;16(11):1632. doi: 10.3390/ph16111632.
3. Pierattini B, D'Agostino S, Bon C, Peruzzo O, Alendar A, Codino A, Ros G, Persichetti F, Sanges R, Carninci P, Santoro C, **Espinoza S**, Valentini P, Pandolfini L, Gustincich S. SINEUP non-coding RNA activity depends on specific N6-methyladenosine nucleotides. *Mol Ther Nucleic Acids*. 2023 Apr 7;32:402-414. doi: 10.1016/j.omtn.2023.04.002.
4. Chiara, S., Carlotta, B., Elena, D.C., Marta, C., Joanna, N., Pietro, P., Fabio, P., Santoro, C., Persichetti, F., Giuseppe, L., **Espinoza, S.***, Stefano, G*. Neuronal haemoglobin induces loss of dopaminergic neurons in mouse Substantia nigra, cognitive deficits and cleavage of endogenous α -synuclein. *Cell Death and Disease* (2022) 13:104. doi: 10.1038/s41419-022-05489-y
5. Maggi S, Bon C, Gustincich S, Tucci V, Gainetdinov RR, **Espinoza S**. Improved cognitive performance in trace amine-associated receptor 5 (TAAR5) knock-out mice. *Sci Rep*. 2022 Aug 29;12(1):14708. doi: 10.1038/s41598-022-18924-z.
6. Leo D, Targa G, **Espinoza S**, Villers A, Gainetdinov RR, Ris L. Trace Amine Associate Receptor 1 (TAAR1) as a New Target for the Treatment of Cognitive Dysfunction in Alzheimer's Disease. *Int J Mol Sci*. 2022 Jul 15;23(14):7811. doi: 10.3390/ijms23147811.
7. Bon C, Chern TR, Cichero E, O'Brien TE, Gustincich S, Gainetdinov RR, **Espinoza S**. Discovery of Novel Trace Amine-Associated Receptor 5 (TAAR5) Antagonists Using a Deep Convolutional Neural Network. *Int J Mol Sci*. 2022 Mar 14;23(6):3127. doi: 10.3390/ijms23063127.
8. Valentini P, Pierattini B, Zacco E, Mangoni D, **Espinoza S**, Webster NA, Andrews B, Carninci P, Tartaglia GG, Pandolfini L, Gustincich S. Towards SINEUP-based therapeutics: Design of an in vitro synthesized SINEUP RNA. *Mol Ther Nucleic Acids*. 2022 Feb 2;27:1092-1102. doi: 10.1016/j.omtn.2022.01.021
9. Arnoldi M, Zarantonello G, **Espinoza S**, Gustincich S, Di Leva F, Biagioli M. Design and Delivery of SINEUP: A New Modular Tool to Increase Protein Translation. *Methods Mol Biol*. 2022;2434:63-87. doi: 10.1007/978-1-0716-2010-6_4

10. **Espinoza S**, Bon C, Valentini P, Pierattini B, Matey AT, Damiani D, Pulcrano S, Sanges R, Persichetti F, Takahashi H, Carninci P, Santoro C, Cotella D, Gustincich S. SINEUPs: a novel toolbox for RNA therapeutics. *Essays Biochem.* 2021 Oct 27;65(4):775-789. doi: 10.1042/EBC20200114.
11. Sanna F, Bratzu J, Serra MP, Leo D, Quartu M, Boi M, **Espinoza S**, Gainetdinov RR, Melis MR, Argiolas A. Altered Sexual Behavior in Dopamine Transporter (DAT) Knockout Male Rats: A Behavioral, Neurochemical and Intracerebral Microdialysis Study. *Front Behav Neurosci.* 2020 Apr 20;14:58.
12. **Espinoza S**, Sukhanov I, Efimova E, Kozlova A, Antonova K, Illiano P, Leo D, Merkulyeva N, Kalinina D, Musienko P, Rocchi A, Mus L, Sotnikova TD, Gainetdinov RR. Trace amine-associated receptor 5 (TAAR5) provides olfactory input into limbic brain areas and modulates emotional behaviors and serotonin transmission. *Front Mol Neurosci.* 2020 Mar 5;13:18.
13. **Espinoza S**, Scarpato M, Damiani D, Managò F, Mereu M, Contestabile A, Peruzzo O, Carninci P, Santoro C, Papaleo F, Mingozzi F, Ronzitti G, Zucchelli S, Gustincich S. SINEUP Non-coding RNA Targeting GDNF Rescues Motor Deficits and neurodegeneration in a Mouse Model of Parkinson's Disease. *Mol Ther.* 2019 Aug 16
14. Bon C, Luffarelli R, Russo R, Fortuni S, Pierattini B, Santulli C, Fimiani C, Persichetti F, Cotella D, Mallamaci A, Santoro C, Carninci P, **Espinoza S**, Testi R, Zucchelli S, Condò I, Gustincich S. SINEUP non-coding RNAs rescue defective frataxin expression and activity in a cellular model of Friedreich's Ataxia. *Nucleic Acids Res.* 2019 Nov 18
15. Lam VM, Mielnik CA, Baimel C, Beerepoot P, **Espinoza S**, Sukhanov I, Horsfall W, Gainetdinov RR, Borgland SL, Ramsey AJ, Salahpour A. Behavioral Effects of a Potential Novel TAAR1 Antagonist. *Front Pharmacol.* 2018 Sep 4;9:953.
16. **Espinoza S**, Leo L, Sotnikova TD, Shahid M, Kääriäinen M and Gainetdinov RR. Biochemical and Functional Characterization of the Trace Amine-Associated Receptor 1 (TAAR1) Agonist RO5263397. *Front. Pharmacol.*, 21 June 2018 9:645
17. Schwartz MD, Canales JJ, Zucchi R, **Espinoza S**, Sukhanov I, Gainetdinov RR. Trace amine-associated receptor 1: a multimodal therapeutic target for neuropsychiatric diseases. *Expert Opin Ther Targets.* 2018 Jun;22(6):513-526.
18. Aleksandrov AA, Knyazeva VM, Volnova AB, Dmitrieva ES, Korenkova O, **Espinoza S**, Gerasimov A, Gainetdinov RR. Identification of TAAR5 Agonist Activity of Alpha-NETA and Its Effect on Mismatch Negativity Amplitude in Awake Rats. *Neurotox Res.* 2018 May 1.
19. Guariento S, Tonelli M, **Espinoza S**, Gerasimov AS, Gainetdinov RR, Cichero E. Rational design, chemical synthesis and biological evaluation of novel biguanides exploring species-specificity responsiveness of TAAR1 agonists. *Eur J Med Chem.* 2018 Feb 25;146:171-184.
20. Leo D, Sukhanov I, Zoratto F, Illiano P, Caffino L, Sanna F, Messa G, Emanuele M, Esposito A, Dorofeikova M, Budygin EA, Mus L, Efimova EV, Niello M, **Espinoza S**, Sotnikova TD, Hoener MC, Laviola G, Fumagalli F, Adriani W, Gainetdinov RR. Pronounced Hyperactivity, Cognitive Dysfunctions, and BDNF Dysregulation in Dopamine Transporter Knock-out Rats. *J Neurosci.* 2018 Feb 21;38(8):1959-1972
21. **Espinoza S**. Trace Monoamines and Receptors in Mammalian CNS. In *Reference Module in Neuroscience and Biobehavioral Psychology*, Elsevier, 2017. ISBN 9780128093245
22. Illiano P, Bass CE, Fichera L, Mus L, Budygin EA, Sotnikova TD, Leo D, **Espinoza S**, Gainetdinov RR. Recombinant Adeno-Associated Virus-mediated rescue of function in a mouse model of Dopamine Transporter Deficiency Syndrome. *Sci Rep.* 2017 Apr 18;7:46280. doi: 10.1038/srep46280.
23. Maggi S, Balzani E, Lassi G, Garcia-Garcia C, Plano A, **Espinoza S**, Mus L, Tinarelli F, Nolan PM, Gainetdinov RR, Balci F, Nieuws T, Tucci V. The after-hours circadian mutant

- has reduced phenotypic plasticity in behaviors at multiple timescales and in sleep homeostasis. *Sci Rep*. 2017 Dec 19;7(1):17765. doi: 10.1038/s41598-017-18130-2.
24. Bono F, Savoia P, Guglielmi A, Gennarelli M, Piovani G, Sigala S, Leo D, **Espinoza S**, Gainetdinov RR, Devoto P, Spano P, Missale C, Fiorentini C. Role of Dopamine D2/D3 Receptors in Development, Plasticity, and Neuroprotection in Human iPSC-Derived Midbrain Dopaminergic Neurons. *Mol Neurobiol*. 2017 Jan 14. doi: 10.1007/s12035-016-0376-3.
 25. Codrich M, Bertuzzi M, Russo R, Francescato M, **Espinoza S**, Zentilin L, Giacca M, Cesselli D, Beltrami AP, Ascenzi P, Zucchelli S, Persichetti F, Leanza G, Gustincich S. Neuronal hemoglobin affects dopaminergic cells' response to stress. *Cell Death Dis*. 2017 Jan 5;8(1):e2538. doi: 10.1038/cddis.2016.458.
 26. Polanco MJ, Parodi S, Piol D, Stack C, Chivet M, Contestabile A, Miranda HC, Lievens PM, **Espinoza S**, Jochum T, Rocchi A, Grunseich C, Gainetdinov RR, Cato AC, Lieberman AP, La Spada AR, Sambataro F, Fischbeck KH, Gozes I, Pennuto M. Adenylyl cyclase activating polypeptide reduces phosphorylation and toxicity of the polyglutamine-expanded androgen receptor in spinobulbar muscular atrophy. *Sci Transl Med*. 2016 Dec 21;8(370):370ra181. doi: 10.1126/scitranslmed.aaf9526
 27. Tonelli M, **Espinoza S**, Gainetdinov RR, Cichero E. Novel biguanide-based derivatives scouted as TAAR1 agonists: synthesis, biological evaluation, ADME prediction and molecular docking studies. *Eur. J. Med. Chem*. 2016 Oct 27. DOI information: 10.1016/j.ejmech.2016.10.058
 28. Chiellini G, Nesi G, Sestito S, Chiarugi S, Runfola M, **Espinoza S**, Sabatini M, Bellusci L, Laurino A, Cichero E, Gainetdinov RR, Fossa P, Raimondi L, Zucchi R, Rapposelli S. Hit-to-Lead Optimization of Mouse Trace Amine Associated Receptor 1 (mTAAR1) Agonists with a Diphenylmethane-Scaffold: Design, Synthesis, and Biological Study. *J Med Chem*. 2016 Oct 12.
 29. Cichero E., **Espinoza S**., Tonelli M., Franchini S., Gerasimov A. S., Sorbi C., Gainetdinov R. R., Brasili L., Fossa P. A homology modelling-driven study leading to the discovery of the first mouse trace amine-associated receptor 5 (TAAR5) antagonists. *MedChemComm*. 2016
 30. Leo D. & **Espinoza S**. Trace amine-associated receptor 1 modulation of dopamine system. *Trace Amines and Neurological Disorders: Potential Mechanisms and Risk Factors*. Edited by Tahira Farooqui and Akhlaq A. Farooqui. San Diego, Academic Press, 2016.
 31. Sukhanov I, Caffino L, Efimova EV, **Espinoza S**, Sotnikova TD, Cervo L, Fumagalli F, Gainetdinov RR. Increased context-dependent conditioning to amphetamine in mice lacking TAAR1. *Pharmacol Res*. 2015 Nov 30.
 32. Lam VM, **Espinoza S**, Gerasimov AS, Gainetdinov RR, Salahpour A. In-vivo pharmacology of Trace-Amine Associated Receptor 1. *Eur J Pharmacol*. 2015 Sep 15.
 33. Chiellini G, Nesi G, Digiacomo M, Malvasi R, **Espinoza S**, Sabatini M, Frascarelli S, Laurino A, Cichero E, Macchia M, Gainetdinov RR, Fossa P, Raimondi L, Zucchi R, Rapposelli S. Design, Synthesis, and Evaluation of Thyronamine Analogues as Novel Potent Mouse Trace Amine Associated Receptor 1 (mTAAR1) Agonists. *J Med Chem*. 2015 Jun 5
 34. **Espinoza S**., Lignani G., Caffino L., Maggi S., Sukhanov I., Leo D., Mus L., Emanuele M., Ronzitti G., Harmeier A., Medrihan L., Sotnikova T.D., Chierigatti E., Hoener M.C., Benfenati F., Tucci V., Fumagalli F., Gainetdinov R.R. TAAR1 modulates cortical glutamate NMDA receptor function. *Neuropsychopharmacology*. 2015 Mar 9.
 35. **Espinoza S**., Ghisi V., Emanuele M., Leo L., Sukhanov I., Sotnikova T.D., Chierigatti E., Gainetdinov R.R. Postsynaptic D2 dopamine receptor supersensitivity in the striatum of mice lacking TAAR1. *Neuropharmacology*. 2015 Feb 24.
 36. **Espinoza S** and Gainetdinov RR. Neuronal functions and emerging pharmacology of TAAR1. *Top Med Chem*. 2014 Dec 9.

37. Beaulieu JM, **Espinoza S** and Gainetdinov RR. Dopamine receptors: an update. Br. J. Pharmacol. 2015 Jan;172(1):1-23.
38. Sukhanov I, **Espinoza S**, Yakovlev DS, Hoener MC, Sotnikova TD, Gainetdinov RR.. TAAR1-dependent effects of apomorphine in mice. Int J Neuropsychopharmacol. 2014 Oct;17(10):1683-93.
39. Cichero E, **Espinoza S**, Franchini S, Guariento S, Brasili L, Gainetdinov RR, Fossa P.. Further Insights Into the Pharmacology of the Human Trace Amine-Associated Receptors: Discovery of Novel Ligands for TAAR1 by a Virtual Screening Approach. Chem Biol Drug Des. 2014 Jun 4
40. Leo D, Mus L, **Espinoza S**, Hoener MC, Sotnikova TD, Gainetdinov RR. Taar1-mediated modulation of presynaptic dopaminergic neurotransmission: Role of D2 dopamine autoreceptors. Neuropharmacology. 2014 Feb 22.
41. Lignani G, Ferrea E, Difato F, Amarù J, Ferroni E, Lugarà E, **Espinoza S**, Gainetdinov RR, Baldelli P, Benfenati F. Long-term optical stimulation of channelrhodopsin-expressing neurons to study network plasticity. Front Mol Neurosci. 2013 Aug 20;6:22.
42. Cichero E, **Espinoza S**, Gainetdinov RR, Brasili L, Fossa P. Insights into the Structure and Pharmacology of the Human Trace Amine-Associated Receptor 1 (hTAAR1): Homology Modelling and Docking Studies. Chem Biol Drug Des. 2013 Apr;81(4):509-16
43. Salahpour A, **Espinoza S**, Masri B, Lam V, Barak LS, Gainetdinov RR. BRET biosensors to study GPCR biology, pharmacology, and signal transduction. Front Endocrinol (Lausanne). 2012;3:105
44. **Espinoza S**, Masri B, Salahpour A, Gainetdinov RR. BRET approaches to characterize dopamine and TAAR1 receptor pharmacology and signaling. Methods Mol Biol. 2013;964:107-22 doi: 10.1007/978-1-62703-251-3_8.
45. **Espinoza S**, Manago F, Leo D, Sotnikova TD, Gainetdinov RR. Role of catechol-O-methyltransferase (COMT)-dependent processes in Parkinson's disease and L-DOPA treatment. CNS Neurol Disord Drug Targets. 2012 Apr 3
46. Managò F, **Espinoza S**, Salahpour A, Sotnikova TD, Caron MG, Premont RT, Gainetdinov RR. The role of GRK6 in animal models of Parkinson's Disease and L-DOPA treatment. Sci Rep. 2012;2:301.
47. **Espinoza S**, Salahpour A, Masri B, Sotnikova TD, Messa M, Barak LS, Caron MG, Gainetdinov RR. Functional interaction between Trace Amine Associated Receptor 1 (TAAR1) and dopamine D2 receptor. Mol Pharm. 2011 Jun 15
48. Sotnikova TD, Beaulieu JM, **Espinoza S**, Masri B, Zhang X, Salahpour A, Barak LS, Caron MG, Gainetdinov RR. The dopamine metabolite 3-methoxytyramine is a neuromodulator. PLoS One. 2010 Oct 18;5(10)
49. Chiusaroli R, Garofalo P, **Espinoza S**, Neri E, Caselli G, Lanza M. Antipsychotic-like effects of the N-methyl-d-aspartate receptor modulator neboglamine: An immunohistochemical and behavioural study in the rat. Pharmacol Res. 2010 Jan 4

Contact details for references

Prof. Stefano Gustincich

Istituto Italiano di Tecnologia, NBT department.

stefano.gustincich@iit.it

Prof. Raul Gainetdinov

St. Petersburg State University.
gainetdinov.raul@gmail.com

Dr. Marco Lanza

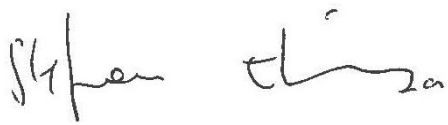
Rottapharm S.p.A. Pharmacology department
marco.lanza@rottapharmbiotech.com

Prof. Marc G. Caron

Duke University, Department of Cell Biology
m.caron@cellbio.duke.edu

According to law 679/2016 of the Regulation of the European Parliament of 27th April 2016, I hereby express my consent to process and use my data provided in this CV.

Luogo e Data: Novara, 12-02-2024

A handwritten signature in black ink, appearing to read "Marco Lanza". The signature is written in a cursive style with a large initial 'M' and a long horizontal stroke.