

 **SIGMA-1 EUROPE**
European research network on
sigma-1 receptors CA23156

6th European Symposium
2nd Meeting of SIGMA-1 EUROPE

Physiopathology of Sigma-1 Receptors

Collegium Novum Jagiellonian University, Kraków
June 9-11, 2026

Keynote Speakers

Hongmei Jia

Beijing Normal University, China

Xavier Codony

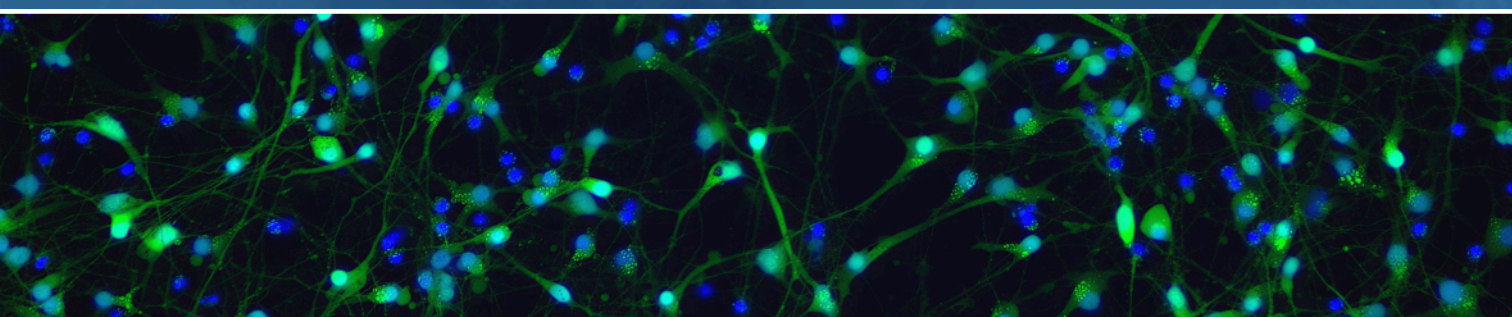
Fundación Kaertor & CiMUS, Spain

Kenji Hashimoto

Chiba University, Japan

Philippe De Deurwaerdère

University of Bordeaux, France



Local Organizers:

Karolina Pytka karolina.pytka@uj.edu.pl

Tangui Maurice tangui.maurice@umontpellier.fr

Sponsored by:

Physiopathology of Sigma-1 Receptors

6th European Symposium/ 2nd Meeting of the
European Network for Sigma-1 Receptor as a Therapeutic Opportunity
(SIGMA-1EUROPE - CA23156)



9-11 June 2026

Organizers

Scientific Committee

Tangui Maurice

MMDN, University of Montpellier, EPHE, INSERM, France

Liga Zvejniece

Latvian Institute of Organic Chemistry, Latvia

Carmen Abate

University of Bari Aldo Moro, Italy

Enrique J Cobos

University of Granada, Spain

Karolina Pytka

Jagiellonian University Medical College, Poland

Local Organizers

Karolina Pytka

Jadwiga Handzlik

Jacek Sapa

Ewa Szymańska

Klaudia Lustyk

Szczepan Mogilski

Kinga Sałaciak

Angelika Jagielska

Jagiellonian University Medical College, Poland

Symposium Support Team

Monika Głuch-Lutwin

Barbara Mordyl

Paulina Dudzik

Julia Pakulska

Gabriela Cieśla

Nadia Gralak

Aleksandra Janowska

Geethanjali Kagitham

Yao Andre Cedric Paterne Koffi

Egno Gerald Komba

Hicham Mechqoq

Evelina Mielko

Joana Mielko

Marcjanna Smagała

Alexandr Stanislavski

Jagiellonian University Medical College, Poland

Media patronage

braininq

Tuesday, 9 June 2026

08:30-9:00 Registration

09:00-9:30 Opening ceremony

Karolina Pytka, on behalf of the Scientific Committee and Local Organizers

Tangui Maurice, Chair of SIGMA-1EUROPE

Aleksander Mendyk, Vice Dean for Science and Development, Faculty of Pharmacy JU MC

09:30-10:15 Keynote lecture

From molecule design to clinical translation: development of highly specific sigma-1 receptor radioligands for in vivo imaging

Hongmei Jia, Beijing Normal University, China

Chair: Carmen Abate, University of Bari Aldo Moro, Italy

10:15-10:45 Coffee break & Poster session 1

10:45-13:05 Scientific session 1 - Medicinal chemistry and drug discovery

1. **An optimized lead compound for treating dementia targeting sigma-1, sigma-2, and 5-HT_{2a} receptors and butyrylcholinesterase**
Urban Košak, University of Ljubljana, Slovenia
2. **Design of dual sigma-1/Cb2 receptor ligands as a therapeutic strategy for neurodegenerative disorders**
Giovanni Graziano, University of Bari, Italy
3. **Towards multi-target ligands for pain therapy: design and biological evaluation of compounds directed at sigma-1, histamine H₃, and μ -opioid receptors**
Katarzyna Szczepańska, Maj Institute of Pharmacology Polish Academy of Sciences, Poland
4. **Machine learning and artificial intelligence tools for the rational design of novel sigma-1 receptor modulators**
Domenico Alberga, National Research Council, Italy
5. **Ligand-driven allosteric rearrangements of the sigma-1 receptor revealed by molecular dynamics**
Vittoria Nanna, National Research Council, Italy
6. **A vintage-integrated modeling approach: from 2D-QSAR to molecular dynamics in search for new σ 1-receptor ligands**
Antonio Carrieri, University of Bari Aldo Moro, Italy

Chair: Carmen Abate, University of Bari Aldo Moro, Italy

13:05-14:35 Lunch & Poster session 1

14:35-16:15 Scientific session 2 - Sigma-1 receptor biology and methods

1. **Investigation of σ_1 receptor structure and function**
Andrea Ilari, National Research Council, Italy
2. **A standardized protocol for assessing the binding and selectivity of sigma-1 receptor-targeted ligands leveraging spectrofluorometry and cytofluorimetry: experiences from the 1st COST ACTION SIGMA1-EUROPE training school**
Andrea Gazzano, University of Pavia, Italy
3. **Rare SIGMAR1 gene variants in a cohort of neurodevelopmental disorders**
Gül Ünsel-Bolat, Balıkesir University, Türkiye
4. **Modulation of macrophage polarization via sigma-1 receptors**
Gulay Sezer, Erciyes University, Türkiye

Chair: Enrique J Cobos, University of Granada, Spain

16:15-16:45 Coffee break & Poster session 1

16:45-17:30 Keynote lecture

Classical psychedelic DMT and ketamine enantiomers as rapid-acting antidepressants: sigma-1 receptor signaling and beyond

Kenji Hashimoto, Chiba University, Japan

Chair: Enrique J Cobos, University of Granada, Spain

18:00 Guided tour of the Jagiellonian University's Collegium Maius or the Museum of Pharmacy

Wednesday, 10 June 2026

8:30-11:00 Scientific session 3 - Early-career award

1. **Spirocyclic dual-acting soluble epoxide hydrolase inhibitors and sigma-1 receptor antagonists as non-opioid analgesics**
Alba López-Ruiz, University of Barcelona, Spain
2. **Enhanced neuroprotection by the sigma-1 receptor agonist PRE-084 against type 2 diabetes complication in an Alzheimer's disease mouse model**
Charlyne Barry-Simonnet, University of Montpellier, France
3. **Empagliflozin modulates ER stress and mitochondria-associated membrane signaling in the brain of type 2 diabetic rats: involvement of sigma-1 receptors**
Nil Oge, Ege University, Türkiye
4. **Pharmacological evaluation of new multi-target ligands against sigma-1 and histamine H3 receptors for the treatment of Alzheimer's disease**
Alicia Porro Pérez, Institute of General Organic Chemistry, Spain
5. **The sigma-1 receptor agonist fluvoxamine alleviates endotoxin-induced acute lung injury in mice**
Akos Toth, Semmelweis University, Hungary
6. **Development of positron emission tomography (PET) and fluorescent ligands for the imaging of sigma-1 receptor (S1R)**
Gabriella Rosanna Musillo, University of Bari Aldo Moro, Italy
7. **Brain region- and sex-specific transcriptome of sigma-1 receptor knock-out mice**
Anna Miteniece, University of Latvia, Latvia
8. **Design, synthesis, and photopharmacological evaluation of piperazine-based photoswitchable ligands targeting the chaperone protein sigma-1**
Damiano Arella, University of Wuerzburg, Germany
9. **Oligomerization dynamics of sigma-1 receptor: trimer, hexamer and nonamer revealed by cryo-EM and mass photometry**
Vittorio Brufani, Sapienza University of Rome, Italy
10. **Endoplasmic reticulum stress marker GRP78/BiP alterations in APOE ε4 positive Alzheimer's disease patients**
Jana Kocic, University of Nis, Serbia
11. **In silico identification of dual-target ligands modulating TAAR1 and SIGMAR1 for Parkinson's disease with comorbid depression**
Zbigniew Gajda, Jagiellonian University Medical College, Poland

Chair: Karolina Pytka, Jagiellonian University Medical College, Poland

11:00-11:30 Coffee break & Poster session 2

11:30-12:15 Keynote lecture

Targeting sigma-2 receptors as a promising therapy for the treatment of neurodegenerative diseases

Xavier Codony, Fundación Kaertor & CiMUS, Universidad de Santiago de Compostela, Spain

Chair: Karolina Pytka, Jagiellonian University Medical College, Poland

12:15-13:45 Lunch & Poster session 2

13:45 -15:45 Scientific session 4 - Neurological disorders and disease models

1. **SigmaR1-related functional EEG signatures of Alzheimer's disease: insights from theta/alpha ratio and cognitive performance**
Ayşegül K. Kasap, Gümüşhane University, Karadeniz Technical University, Türkiye
2. **Pridopidine, a potent and selective therapeutic sigma-1 receptor (S1R) agonist for the treatment of neurodegenerative and neurodevelopmental diseases**
May Meltzer, Prilenia Therapeutics B.V., Netherlands
3. **Preclinical development of RC-106: a brain-permeant sigma receptors modulator against glioblastoma**
Giacomo Rossino, University of Pavia, Italy
4. **Sigma-1 receptor modulation as a potential missing link in ONC201 mechanism of action in diffuse intrinsic pontine glioma (DIPG)**
Anselma Liturri, University of Bari Aldo Moro, Italy
5. **Sigma-1 receptor-targeted nanofibrous biomaterial systems for modulating cellular stress and enhancing wound healing**
Hayrani Eren Bostancı, Sivas Cumhuriyet University, Türkiye

Chair: Liga Zvejniece, Latvian Institute of Organic Chemistry, Latvia

15:45-16:15 Coffee break & Poster session 2

16:15-17:00 Keynote lecture

Serotonergic psychedelics and the brain neurochemical tissue

Philippe De Deurwaerdère, University of Bordeaux, France

Chair: Liga Zvejniece, Latvian Institute of Organic Chemistry, Latvia

17:00-17:30 Closing remarks

18:30-19:15 Guided tour of the Jagiellonian University Botanical Garden (dinner participants only)

19:30-23:00 Closing dinner in the Botanical Garden

Thursday, 11 June 2026

08:30-11:00 WG3 meeting

(Establishment of SOPs for in-vitro/in-vivo models to assess sigma-1 receptor ligands)

11:00-11:30 Coffee break

11:30-13:00 WG5 meeting

(Dissemination, Communication and Outreach)

13:00-14:00 Lunch

14:00-16:00 Management Committee meeting

Poster session 1

No	Presenting Author	Title
1	Tadeusz Karcz	Multifunctional ligands targeting sigma-1, μ -opioid, and histamine H3 receptors: Design, synthesis, and biological evaluation of novel analgesic agents
2	Carlo Reale	Design and synthesis of novel, structurally simplified σ /HDAC dual-target prodrugs
3	Adam Hosszu	Sigma-1 receptor as a novel therapeutic target in diabetic kidney disease
4	Miriam Santos-Caballero	Analgesic effect of the combined action on sigma-1 and sigma-2 receptors: A preclinical study in capsaicin-induced sensitization and postoperative pain
5	Albrecht Clement	Partners in Flux? – The potential relationship of S1R and WFS1 in neuronal autophagy
6	Gniewomir Latacz	The drug-like properties assessment of a new selenoorganic σ 1-receptor ligand
7	Giuliana Costanzo	Two-step synthesis of enantiomerically pure morphans from (R)-carvone
8	Diana Dias da Silva	Sigma-1 receptor as a translational lens for serotonergic hallucinogens in depression: A scoping review
9	Santiago Vázquez	Design and synthesis of dual soluble epoxide hydrolase inhibitors / sigma-1 receptor antagonists with analgesic activity
10	Andrew M. Tan	Pridopidine in Huntington's disease: PROOF-HD trial findings and 2-year follow-up
11	May Meltzer	Pridopidine protects ALS patient-derived neural progenitor cells by reducing ER stress and restoring mitochondrial function via sigma-1 receptor activation
12	Andrew M. Tan	Pridopidine, a sigma-1 receptor agonist, modulates cellular stress and survival pathways across neurodegenerative models
13	May Meltzer	Pridopidine, a selective and potent sigma-1 receptor for the treatment of ALS: Rationale for the Phase 3 trial
14	Kinga Czarnota-Łydka	Synthesis and neuroprotective profiling of a new phenylsulfanylpropyl-piperazine derivative as a potential antipsychotic agent

Poster session 2

No	Presenting Author	Title
15	Tangui Maurice	Neuroprotection by Amylovis-201, an anti-amyloidogenic agent with sigma-1 receptor agonist activity, is enhanced in enriched environment conditions
16	Xavier Codony	Annotated sigma receptor ligand library for drug discovery
17	Anna Czader	ADMET in silico studies for 1,3,5-triazine-derived 5-HT ₆ serotonin receptor ligands with expected action of σ ₁ -receptor agonists
18	Ewa Szymańska	Arylpiperazine revisited: New multitarget directions for CNS-active ligands
19	Angelika Jagielska	HBK-15, a multimodal compound activating sigma-1 receptors, modulates cognitive performance in aged mice
20	Klaudia Lustyk	Sigma-1 receptor engagement by HBK-10 alleviates cognitive deficits under NMDA receptor hypofunction
21	Kinga Sałaciak	HBK-15 prevents MK-801-induced memory consolidation deficits via sigma-1 receptor-dependent mechanisms
22	Elżbieta Żmudzka	The study of novel salicylamide derivative and its potential antipsychotic activity in rats
23	Joanna Nowak-Włodyga	Histamine H ₃ receptor antagonist with dual sigma-1 receptor activity attenuates pain and reverses memory impairments
24	Srećko Gajović	Modifying neuroinflammation as a preclinical intervention strategy after ischemic lesion in relation to sigma-1 receptor signaling
25	Tugba Agbektas	The relationship between <i>SIGMAR1</i> and purinergic signaling: Stage-dependent expression changes in diabetic retinopathy
26	Jens Loncke	Wolfram syndrome-associated protein CISD2 as a regulator of ER-mitochondrial calcium transfer and cell fate
27	Burçin Kurt	A <i>SIGMAR1</i> -centered network signature of synaptic adhesion in Alzheimer's disease
28	Michal Cagalinec	Perturbations in mitochondrial respiration in WFS1-deficient SH-SY5Y neuronal cells despite unaltered mitochondrial morphology