



**Patrocina:**



UNIVERSIDAD DE MÁLAGA



Instituto de Investigación Biomédica de Málaga



PHYTOPLANT RESEARCH



OBSERVATORIO español de cannabis medicinal



**21ª Reunión Anual de la**  
**Sociedad Española de Investigación**  
**sobre Cannabinoides**



Aula Magna de la Facultad de Medicina  
Universidad de Málaga

**Málaga**  
**25-27 noviembre, 2021**

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Fernando Rodríguez de Fonseca (IBIMA-Hospital Universitario Regional de Málaga)  
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Sociedad Española de Investigación sobre Cannabinoides  
Departamento de Bioquímica y Biología Molecular III  
Facultad de Medicina  
Universidad Complutense de Madrid  
28040 Madrid (España)

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## PATROCINADORES ESTRATÉGICOS

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KHIRON LIFE SCIENCES



## PROGRAMA CIENTÍFICO

**Jueves, 25 de Noviembre**

- 11:00-12:30**      **Registro, entrega de documentación**
- 12:30-13:00**      **Inauguración**  
- Pedro Grandes Moreno (Presidente de la SEIC).  
- Zaida Díaz Cabiale (Vicerrectora Adjunta de Investigación de la Universidad Málaga).  
- José Pablo Lara Muñoz (Decano Facultad de Medicina Universidad Málaga).  
- Juan Suárez Pérez (Comité Organizador).
- 13:00-14:00**      **Conferencia inaugural: *Oleoylethanolamide as novel potential target for the treatment of binge eating disorder: first evidence from an animal study.***  
**Silvana Gaetani** (Full Professor of Pharmacology, Sapienza University of Rome, Italy).  
  
Presentada por Fernando Rodríguez de Fonseca.
- 14:00**              **Comida**
- 15:30-17:00**      **1ª Sesión de comunicaciones orales: Señalización del sistema endocannabinoide.**  
Moderada por Edgar Soria-Gomez.
- 15:30-15:45      O1.1  
ANALYSIS OF ENDOCANNABINOID DYNAMICS IN ASTROCYTES.  
Eraso-Pichot A., Olivera-Pinto A., Dalla-Tor T., Fernández-Moncada I., Serrat R., Covelo A., Poivreau S., Cannich A., Marsicano G.
- 15:45-16:00      O1.2  
CANNABINOID CB1 RECEPTOR GENE INACTIVATION IN OLIGODENDROCYTE PRECURSORS DISRUPTS OLIGODENDROGENESIS AND MYELINATION IN MICE.  
Sánchez-De la Torre A., Aguado T., Huerga-Gómez A., Santamaría S., Chara JC., Matute C., Monory K., Lutz B., Mato S., Guzmán M., Galve-Roperh I., Palazuelos J.

- 16:00-16:15 O1.3  
G PROTEIN-DEPENDENT SIGNALLING OF THE TYPE 1 CANNABINOID RECEPTOR IN SYNAPTOSOMES FROM THE MOUSE HIPPOCAMPUS AND FRONTAL CORTEX.  
Saumell Esnaola M., Barrondo S., García del Caño G., Goicolea MA., Sallés J., Lutz B., Monory K.
- 16:15-16:30 O1.4  
HYPOTHALAMIC REGULATION OF FEAR-CONDITIONING RESPONSE: A NEW ROLE OF CB1 RECEPTOR IN POMC NEURONS.  
Miralpeix C., Eraso-Pichot A., Skupio U., Bellocchio L., Quarta C., Marsicano G., Cota D.
- 16:30-16:45 O1.5  
OREXIN-A/HYPOCRETIN-1 MODULATES FEAR EXTINCTION THROUGH 2-ARACHIDONOYLGLYCEROL AND CB2 CANNABINOID RECEPTOR.  
Ten-Blanco M., Flores Á., Pereda-Pérez I., Piscitelli F., Izquierdo-Luengo C., Cristino L., Romero J., Hillard CJ., Maldonado R., Di Marzo V., Berrendero F.
- 16:45-17:45      Café y 1ª sesión de paneles**
- 17:45-18:45      Hot Topic: Endocannabinoid system, cannabinoids and COVID-19 infection.**  
**Eduardo Muñoz** (Catedrático de Inmunología y Profesor del Departamento de Biología Celular, Fisiología e Inmunología de la Universidad de Córdoba)  
  
Presentada por Nadine Jagerovic.
- 18:45-19:30      2ª Sesión de comunicaciones orales: Sistema endocannabinoide en estados patológicos.**  
Moderada por M. Teresa Grande.
- 18:45-19:00 O2.1  
PLASMA ENDOCANNABINOIDS AS POTENTIAL BIOMARKERS OF COGNITIVE DECLINE RELATED TO HYPOMETABOLIC BRAIN REGIONS.  
López-Gambero AJ., Porras-Perales Ó., Requena-Ocaña N., Flores-López M., Rubio L., Rivera P., Mayoral-Cleries F., Ojeda T., Serrano-Castro PJ., Rodríguez de Fonseca F., Suárez J.
- 19:00-19:15 O2.2  
THE GENETIC INACTIVATION OF FAAH LEADS TO A PRO-INFLAMMATORY, YET NEUROPROTECTIVE, PHENOTYPE IN 5XFAD MICE: A TRANSCRIPTOMIC ANALYSIS.  
Arnanz MA., Troule K., Ruiz-Pérez G., Benito-Cuesta I., Puente Sánchez F., Ruiz de Martín S., Martínez Relimpio AM., Manrique R.,

Tolón RM., Posada-Ayala M., Cravatt BF., Al-Shahrour F., Grande MT., Palenzuela R., Romero J.

19:15-19:30

O2.3

IN VIVO TWO-PHOTON IMAGING OF AMYLOID PLAQUES IN AN ALZHEIMER'S DISEASE MOUSE MODEL: ROLE OF CANNABINOID CB2 RECEPTORS IN MICROGLIAL ACTIVITY.

Ruiz de Martín Esteban S., Grande MT., Herráez D., Benito-Cuesta I., Martínez Relimpio AM., Aranz A., Palenzuela R., Tolón RM., Manrique R., Mostany R., Hillard CJ., Romero J.

19:30-19:45

O2.4

BIP HETEROZIGOSITY AGGRAVATES PATHOLOGICAL DETERIORATION IN EXPERIMENTAL AMYOTROPHIC LATERAL SCLEROSIS: RELEVANCE FOR CB1 RECEPTOR-MEDIATED NEUROPROTECTION.

Gómez-Almería M., Burgaz S., Costas-Insua C., Rodríguez-Cueto C., Santos-García I., Rodríguez-Crespo I., García C., Guzmán M., de Lago E., Fernández-Ruiz J.

19:45-20:00

O2.5

BIOCHEMICAL ALTERATIONS IN SPINAL CORD FOLLOWING SEX-DEPENDENT ANTINOCICEPTION INDUCED BY FAAH OR MGL INHIBITION IN A RAT MODEL OF PERIPHERAL NEUROPATHY.

Boullon L., Leahy S., Calitz C., Finn DP., Llorente-Berzal A.

20:00-20:15

O2.6

ROLE OF FAAH IN BREAST CANCER.

Tundidor I., Seijo-Vila M., Blasco-Benito S., Andradas C., Caro-Villalobos M., Caffarel MM., Moreno-Bueno G., Heras-Murillo I., Guzmán M., Sánchez C., Pérez-Gómez E.

## Viernes, 26 de Noviembre

9:30-11:00

**3ª Sesión de comunicaciones orales: Compuestos cannabinoides y sus efectos terapéuticos.**

Moderada por Gemma Navarro.

9:30-9:45

O3.1

A NEW SYNTHETIC ANTAGONIST FOR CB1 RECEPTOR SHOWS AFFINITY FOR TWO BINDING SITES OF CP55,940.

Bengoetxea de Tena I., Pereira-Castelo G., Moreno-Rodríguez M., Martínez-Gardeazabal J., Manuel I., Martínez C., Vaz B., Alvarez R., de Lera AR., Rodríguez-Puertas R.



- 9:45-10:00 O3.2  
PHARMACOLOGICAL CHARACTERIZATION AND BIASED SIGNALING OF  $\Delta^9$ -THC,  $\Delta^9$ -THCA AND  $\Delta^9$ -THCV IN CANNABINOIDS RECEPTORS.  
Raičh I., Pérez-Olives C., Rebassa JB., Contestí JS., Franco R., Navarro G.
- 10:00-10:15 O3.3  
IDENTIFICATION AND CHARACTERIZATION OF NOVEL POSITIVE ALLOSTERIC MODULATORS FOR CB1R.  
Unciti-Broceta JD., Ponce Diaz FJ., Collado JA., Gómez Cañas M., Guimaré Ortiz JA., Fernández Ruiz J., Saen-Oon S., Díaz L., Appendino G., Muñoz E.
- 10:15-10:30 O3.4  
CB1R AS A POTENTIAL THERAPEUTIC TARGET IN CRBN DEFICIENCY ASSOCIATED MENTAL RETARDATION.  
Hermoso-López A., Costas-Insua C., Moreno E., Blázquez AA., Martín-Gutiérrez D., Maroto-Martínez IB., Montero Fernández C., Díez-Alarcia R., Urigüen L., Casadó V., Rodríguez-Crespo I., Guzmán M.
- 10:30-10:45 O3.5  
THE  $\Delta^9$ -TETRAHYDROCANNABINOL AND CANNABIDIOL COMBINATION REDUCES THE EXCESSIVE GLUTAMATERGIC ACTIVITY IN AN ANIMAL MODEL OF ALZHEIMER'S DISEASE.  
Sánchez-Fernández N., Gómez-Acero L., Castañé A., Campa L., Brito V., Ginés S., Ciruela F., Aso E.
- 10:45-11:00 O3.6  
CANNABINOID CB2 AND N-METHYL-D-ASPARTATE (NMDA) RECEPTORS CONSTITUTE FUNCTIONAL HETEROMERS IN CENTRAL NERVOUS SYSTEM: A POTENTIAL THERAPEUTIC TARGET FOR ALZHEIMER DISEASE.  
Rivas-Santisteban R., Lillo A., Lillo J., Rebassa JB., Contestí JS., Saura CA., Franco R., Navarro G.
- 11:00-12:00** **Café y 2ª sesión de paneles**
- 12:00-13:00** **3ª Sesión de comunicaciones orales (Continuación)**  
Moderada por Onintza Sagredo.
- 12:00-12:15 O3.7  
EFFECT OF A COMBINATION THERAPY WITH CANNABIDIOL AND B-CARYOPHYLLENE FOR DRAVET SYNDROME.  
Alonso C., Satta V., Hernández-Fisac I., Fernández-Ruiz J., Sagredo O.

- 12:15-12:30 O3.8  
EFFECTS OF CANNABIDIOL IN MOOD DISTURBANCES AFTER PERINATAL ARTERIAL ISCHEMIC STROKE IN A NEWBORN RAT MODEL.  
Villa M., Gallego I., Del Pozo A., Martínez M., Silva L., de Hoz-Rivera M., Romero A., Martínez-Orgado J.
- 12:30-12:45 O3.9  
POST-INSULT ADMINISTRATION OF CANNABIDIOL PREVENTS NEUROINFLAMMATION BRAIN DAMAGE IN RAT MODEL OF NEONATAL STROKE.  
Silva L., Villa M., Martínez M., Romero A., de Hoz-Rivera M., Martínez-Orgado J.
- 12:45-13:00 O3.10  
CANNABIDIOL MODULATES INTRAVENTRICULAR HEMORRHAGE-INDUCED NEUROINFLAMMATION IN AN IMMATURE RAT MODEL.  
Romero A., Del Pozo Sanz A., de Hoz-Rivera M., Silva L., Villa M., Martínez M., Martínez-Orgado J.
- 13:00-14:15** **Mesa redonda: Sistema endocannabinoide: De la investigación básica al proyecto empresarial (a company pipeline based on endocannabinoid targets).**
- Fernando Rodríguez de Fonseca** (Investigador SSPA Nicolás Monardes).
  - Eduardo Muñoz** (Profesor del Departamento de Biología Celular, Fisiología e Inmunología de la Universidad de Córdoba).
  - Nadine Jagerovic** (Investigadora científica en Consejo Superior de Investigaciones Científicas. Instituto de Química Médica, CSIC, Madrid).
  - Isabel Guerrero** (Responsable en IBIMA de la Unidad de Innovación y Transferencia de Tecnología del Servicio de Salud Pública de Andalucía (SSPA).
- Moderada por Juan Suárez.
- 14:15** **Comida**
- 15:45-17:00** **3ª Sesión de comunicaciones orales (Continuación)**  
Moderada por Cristina Blázquez.
- 15:45-16:00 O3.11  
VCE-004.8 IS NEUROPROTECTIVE FOR STROKE-INDUCED BRAIN DAMAGE IN NEWBORN RATS.  
Martínez M., Villa M., Silva L., De Hoz-Rivera M., Romero A., Godoy-Corchuelo JM., Muñoz E., Martínez-Orgado J.

16:00-16:15	O3.12 CANNABIDIOL PREVENTS BLOOD BRAIN BARRIER IMPAIRMENT AFTER INTRAVENTRICULAR HEMORRHAGE IN AN IMMATURE RAT MODEL. <u>de Hoz-Rivera M.</u> , Del Pozo A., Romero A., Silva L., Martínez-Vega M., Villa M., Martínez-Orgado J.
16:15-16:30	O3.13 DIFFERENCES IN THE NEUROPROTECTIVE ACTIVITY OF SEVERAL PHYTOCANNABINOIDS AND DERIVATIVES DEPENDING ON THEIR ENANTIOMERIC FORM: RELATION WITH DIFFERENCES IN THEIR BINDING PROFILE TO CANNABINOID RECEPTORS. <u>Rodríguez-Carreiro S.</u> , Gómez-Cañas M., Gonzalo-Consuegra C., Caprioglio D., Mattoteia D., Appendino G., Muñoz E., García C., Fernández-Ruiz J.
16:30-16:45	O3.14 PRECLINICAL INVESTIGATION IN NEUROPROTECTIVE EFFECTS OF THE GPR55 LIGAND VCE-006.1 IN EXPERIMENTAL MODELS OF PARKINSON'S DISEASE AND AMYOTROPHIC LATERAL SCLEROSIS. <u>Burgaz S.</u> , Gonzalo-Consuegra C., Gómez-Almería M., Ruiz-Pino F., Gómez-Cañas M., Alcalde J., Morales P., Jagerovic N., Rodríguez-Cueto C., García C., de Lago E., Muñoz E., Fernández-Ruiz J.
<b>16:45-17:00</b>	<b>Homenaje a Carmen Guaza</b>
<b>17:00-18:00</b>	<b>Café, 3ª sesión de paneles</b>
<b>18:00-19:30</b>	<b>Asamblea de socios de la SEIC</b>
<b>21:00</b>	<b>Cena Congreso</b>

## Sábado, 27 de Noviembre

<b>10:00-11:00</b>	<b>4ª Sesión de comunicaciones orales: Cannabinoides y otras drogas de abuso: Efectos psiquiátricos y señalización.</b>  Moderada por Alejandro Higuera-Matas.
10:00-10:15	O4.1 ADENOSINE A2A RECEPTORS ARE INVOLVED IN THE PSYCHOTIC-LIKE EFFECTS OF THC IN ELDERLY MICE. <u>Gómez-Acero L.</u> , Sánchez-Fernández N., Fernández-Dueñas V., Ciruela F., Aso E.

- 10:15-10:30 O4.2  
NEUROBIOLOGICAL CONSEQUENCES OF THE ADOLESCENT EXPOSURE TO JWH-018, A SYNTHETIC CANNABINOID FOUND IN SPICE/K2 PREPARATIONS.  
Izquierdo-Luengo C., Ten-Blanco M., Ponce-Renilla M., Pereda-Pérez I., Berrendero F.
- 10:30-10:45 O4.3  
STUDYING THE EARLY TRIGGERS OF NEURODEVELOPMENTAL DISORDERS: EFFECTS OF MATERNAL IMMUNE ACTIVATION AND EXPOSURE TO  $\Delta$ 9-TETRAHYDROCANNABINOL DURING ADOLESCENCE.  
Moreno-Fernández M., Capellán R., Ucha M., Marcos A., Luján VM., Santacruz R., Morcillo MA., Oteo-Vives M., Casquero-Veiga M., Soto-Montenegro ML., Desco M., Ambrosio E., Higuera-Matas A.
- 10:45-11:00 O4.4  
ALTERED GLUTAMATE/ENDOCANNABINOID TRANSMISSION MECHANISMS BY ACUTE STRESS AND ALCOHOL EXPOSURE DURING ADOLESCENCE.  
Sánchez-Marín L., Flores-López M., Pastor A., Gavito AL., Suárez J., de la Torre R., Pavón FJ., Rodríguez de Fonseca F., Serrano A.
- 11:00-11:30 Café**
- 11:30-11:45 Premio SEIC a la mejor publicación predoctoral 2020**  
IMBALANCE OF ENDOCANNABINOID/LYSOPHOSPHATIDYLINOSITOL RECEPTORS MARKS THE SEVERITY OF ALZHEIMER'S DISEASE.  
Medina-Vera D., Rosell-Valle C., López-Gambero A.J., Navarro J.A., Zambrana-Infantes E.N., Rivera P., Santín L.J., Suarez J., Rodríguez de Fonseca F.  
  
Presentado por Andrés Ozaita.
- 11:45-12:00 Premio SEIC a la mejor publicación postdoctoral 2020**  
A SPECIFIC PRELIMBIC-NUCLEUS ACCUMBENS PATHWAY CONTROLS RESILIENCE VERSUS VULNERABILITY TO FOOD ADDICTION.  
Domingo-Rodriguez L., Ruiz de Azua I., Dominguez E., Senabre E., Serra I., Kummer S., Navandar M., Baddenhausen S., Hofmann C., Andero R., Gerber S., Navarrete M., Dierssen M., Lutz B., Martín-García E., Maldonado R.  
  
Presentado por Juan Suárez.

**12:00-12:15**

**Premio SEIC a la mejor publicación predoctoral 2021**

IDENTIFICATION OF BIP AS A CB1 RECEPTOR-INTERACTING PROTEIN THAT FINE-TUNES CANNABINOID SIGNALING IN THE MOUSE BRAIN.

Costas-Insua C., Moreno E., Maroto I.B., Ruiz-Calvo A., Bajo-Grañeras R., Martín-Gutiérrez D., Diez-Alarcia R., Vilaró T., Cortés R., García-Font N., Martín R., Espina M., Botta J., Ginés S., McCormick P.J., Sánchez-Prieto J., Galve-Roperh I., Mengod G., Urigüen L., Marsicano G., Bellocchio L., Canela E.I., Casadó V., Rodríguez-Crespo I., Guzmán M.

Presentado por Patricia Rivera.

**12:15-12:30**

**Premio SEIC a la mejor publicación postdoctoral 2021**

LACK OF THE TRANSIENT RECEPTOR POTENTIAL VANILLOID 1 SHIFTS CANNABINOID-DEPENDENT EXCITATORY SYNAPTIC PLASTICITY IN THE DENTATE GYRUS OF THE MOUSE BRAIN HIPPOCAMPUS.

Egaña-Huguet J., Saumell-Esnaola M., Achicallende S., Soria-Gomez E., Bonilla-Del Río I., García del Caño G., Barrondo S., Sallés J., Gerrikagoitia I., Puente N., Elezgarai I., Grandes P.

Presentado por M<sup>a</sup> Ruth Pazos.

**12:30-13:30**

**Entrega de premios y clausura**

**P1.1**

STUDYING THE INVOLVEMENT OF HIPPOCAMPAL CB1 RECEPTORS ON MEMORY AND NAVIGATION.

Sangroniz-Beltran L., Egaña J., Vella M., Bonilla del Río I., Grandes P., and Soria-Gómez E.

**P1.2**

SOLUBLE AND STABLE RECOMBINANT PROTEIN STANDARDS AS SUBSTITUTES OF RADIOLIGANDS FOR QUANTITATIVE ANALYSIS OF CANNABINOID RECEPTOR 1 EXPRESSION IN MEMBRANES FROM RAT CEREBRAL CORTEX.

Saumell Esnaola M., Elejaga-Jimeno A., Borrega-Román L., González-Burguera I., Barrondo S., López de Jesús M., Gómez-Caballero A., Goicolea MA., Sallés J., García del Caño G.

**P1.3**

SEX - DIMORPHIC VARIATIONS IN BRAIN EXPRESSION OF THE ENDOCANNABINOID SYSTEM IN U12 INTRON SPLICING DEFECTIVE ZRSR1 MUTANT MICE.

De Ceglia MLF, Alén F., Rivera P., Gómez-Redondo I., Suárez J., Ramos-Ibeas P., Pericuesta E., Fernández-González R., Perez-Cerezales S., Alfonso Gutiérrez-Adán A., Rodríguez de Fonseca F.

**P1.4**

PLASMA ENDOCANNABINOIDS AS POTENTIAL DIAGNOSTIC AND PROGNOSTIC BIOMARKERS OF COVID-19 DISEASE.

Suárez J., López-Gambero AJ., Porrás-Perales O., Sobrino-Díaz B., Requena-Ocaña N., Arrabal-Gómez C., Requena-Iglesias JM., Serrano-Castro PJ., Rodríguez de Fonseca F.

**P1.5**

PERINATAL ANDROGENIZATION, A MOUSE MODEL OF POLICYSTIC OVARY SYNDROME, RESULTS IN GLUCOSE INTOLERANCE THAT IS ASSOCIATED WITH ALTERED BRAIN INSULIN AND ENDOCANNABINOID SIGNALING.

Navarro JA., Sieiro L., Gutierrez-Adan A., López-Gambero AJ., Medina-Vera D., Baixeras E., Rodríguez de Fonseca F.

**P1.6**

IN VIVO TREATMENT WITH WIN55,212-2 MODIFIES S1P1 RECEPTOR SIGNALING.

Martínez-Gardeazabal J., Moreno-Rodríguez M., Pereira-Castelo G., Bengoetxea de Tena I., Llorente-Ovejero A., Manuel I., Rodríguez-Puertas R.

**P1.7**

GHRELIN AND CANNABINOID FUNCTIONAL INTERACTIONS MEDIATED BY GHRELIN/CB1 RECEPTOR HETEROMERS THAT ARE UPREGULATED IN THE STRIATUM FROM OFFSPRING OF MICE UNDER A HIGH-FAT DIET.

Lillo A., Lillo J., Raich I., Miralpeix C., Casals N., Franco R., Navarro G.

**P1.8**

IDENTIFICATION OF THE GHRELIN AND CANNABINOID CB2 RECEPTOR HETEROMER FUNCTIONALITY AND MARKED UPREGULATION IN STRIATAL NEURONS FROM OFFSPRING OF MICE UNDER A HIGH-FAT DIET.

Lillo J., Lillo A., Zafra DA., Miralpeix C., Rivas-Santisteban R., Casals N., Navarro G., Franco R.

**P1.9**

ANALYSIS OF BOTH LIPID METABOLISM AND ENDOCANNABINOID SIGNALING REVEALS A NEW ROLE FOR HYPOTHALAMIC ASTROCYTES IN MATERNAL CALORIC RESTRICTION-INDUCED PERINATAL PROGRAMMING.

Tovar R., Vargas A., Aranda J., Sánchez-Salido L., González-González L., Chowen JA., Rodríguez de Fonseca F., Suárez J., Rivera P.

**P1.10**

CHANGES IN THE GENE EXPRESSION OF 2-AG SYNTHESIS AND DEGRADATION ENZYMES, NMDA SUBUNIT GENE EXPRESSION AND AMINOACID LEVELS IN THE HIPPOCAMPUS AFTER MATERNAL IMMUNE ACTIVATION, PERIPUBERTAL STRESS OR THEIR COMBINATION.

Nowotny C., Moreno-Fernández M., Capellán R., Ucha M., Marcos A., Ambrosio E., Higuera-Matas A.

## SEGUNDA SESIÓN DE PANELES

**P2.1**

SPARED NERVE INJURY INDUCES SEX-SPECIFIC CHANGES IN THE ENDOCANNABINOID SYSTEM.

Bouillon L., Monaghan S., Finn DP., Llorente-Berzal A.

**P2.2**

SIMULTANEOUS CB1 ANTAGONISM AND CB2 AGONISM REDUCES BRAIN INJURY, DELAYED CELL DEATH AND NEUROINFLAMMATION AFTER ISCHEMIC BRAIN INJURY IN NEWBORN RATS.

Carlioni S., Álvarez FJ., Álvarez A., Hilario E., Crinelli R., Duranti A., Balduini W., Alonso-Alconada D.

**P2.3**

LACK OF CB2 RECEPTORS IMPAIRS BEHAVIOR IN A KAINATE MODEL OF TEMPORAL LOBE EPILEPSY. EFFECT OF THE CB2 ABSENCE ON SYNAPTIC PLASTICITY.

Mimenza A., Serrano M., Egaña-Huguet J., Achicallende S., Anaut-Lusar I., Lekunberri L., Bonilla-Del Río I., Romero J., Grande MT., Ruiz de Martín Esteban S., Hillard CJ., Rico-Barrio I., Gerrikagoitia I., Puente N., Elezgarai I., Grandes P.

**P2.4**

BEHAVIOURAL, CANNABINOID CB1 RECEPTOR AND ASTROGLIAL ALTERATIONS IN THE HIPPOCAMPUS OF A MOUSE MODEL OF TEMPORAL LOBE EPILEPSY.

Anaut-Lusar I., Egaña-Huguet J., Terradillos I., Soria-Gomez E., Mimenza A., Serrano M., Lekunberri L., Bonilla-Del Río I., Ramos A., Reguero L., Gerrikagoitia I., Puente N., Rico-Barrio I., Elezgarai I., Grandes P.

#### **P2.5**

EXPRESSION OF GPR55 AND EITHER CANNABINOID CB1 OR CB2 HETERORECEPTOR COMPLEXES IN THE STRIATUM OF CONTROL, PARKINSONIAN, AND DYSKINETIC NON-HUMAN PRIMATES.

Martínez-Pinilla E., Rico AJ., Rivas-Santisteban R., Lillo J., Roda E., Reyes-Resina I., Navarro G., Lanciego JL., Franco R.

#### **P2.6**

ENDOCANNABINOID MODULATION OF THE INFLAMMATORY REACTION IS NEUROPROTECTIVE IN THE CHRONIC MPTP MOUSE MODEL.

Ayerra L., Abellanas MA., Basurco L., Zamarbide M., Luquin E., Ruiz de Martín Esteban S., Martí MJ., Collantes M., Peñuelas I., Mengual E., Hillard CJ., Hervás-Stubbs S., Romero J., Aymerich MS.

#### **P2.7**

ROLE OF HER2-CB2R HETEROMERS IN TRASTUZUMAB RESISTANCE IN HER2+ BREAST CANCER.

Seijo Vila M., Rubert Hernández M., Blasco Benito S., Tundidor Pérez I., Pérez Gómez E., Sánchez García C.

#### **P2.8**

WIN55,212-2 MODULATES LONG-CHAIN SPHINGOLIPID COMPONENTS OF MYELIN IN A RAT LESION MODEL OF ALZHEIMER'S DISEASE.

Moreno-Rodríguez M., Martínez-Gardeazabal J., Llorente-Ovejero A., Bengoetxea de Tena I., Pereira-Castelo G., Manuel I., Rodríguez-Puertas R.

#### **P2.9**

TREATMENT WITH OLEIC ACID AND HYDROXYTYROSOL CONJUGATED, A DUAL PPAR $\alpha$ /CB1 LIGAND, IMPROVES THE ASSOCIATED SYMPTOMS OF NON-ALCOHOLIC FATTY LIVER DISEASE IN PRECLINICAL MODEL.

Gavito AL., Tovar R., Vargas A., Rodríguez-Pozo M., Pacheco Sánchez B., Baixeras E., Rodríguez de Fonseca F., Decara J.

#### **P2.10**

CLINICAL OUTCOMES ASSOCIATED WITH THE USE OF ORAL MEDICAL CANNABIS EXTRACTS IN THE MULTIMODAL MANAGEMENT OF ADULT PATIENTS: A RETROSPECTIVE COHORT STUDY.

Moreno-Sanz G., Madiedo A., Mendivelso F., Hernández P.



### **P3.1**

TREATMENT WITH LH-21, A TRIZOL DERIVATE THAT WORKS AS CB1 ANTAGONIST, AMELIORATES THE ASSOCIATED SYMPTOMS OF NON-ALCOHOLIC FATTY LIVER DISEASE IN PRECLINICAL MODEL.

Rodríguez-Pozo M., Tovar R., Vargas A., Gavito AL., Herrera J., Baixeiras E., Jagerovic N., Rodríguez de Fonseca F., Decara J.

### **P3.2**

VCE-004.8, A CANNABIDIOL AMINOQUINONE, ACTIVATES B55 $\alpha$ /PP2A AND INDUCES PHD2 DEPHOSPHORYLATION. EFFECTS ON TRAUMATIC BRAIN INJURY.

Navarrete C., García-Martín A., Prados ME., Muñoz E.

### **P3.3**

CANNABIGEROL AS A NEUROPROTECTIVE AGENT IN STROKE.

Pérez-Olives C., Raïch I., Rivas-Santisteban R., Reyes-Resina I., Franco R., Navarro G.

### **P3.4**

PHARMACOKINETICS AND ORAL BIOAVAILABILITY AFTER INTRAVENOUS AND ORAL DOSES ADMINISTRATION OF CANNABIDIOL IN HEALTHY HORSES.

Sánchez de Medina A., Serrano-Rodríguez JM., Díez de Castro E., García-Valverde MT., Saitua A., Becero M., Muñoz A., Ferreiro-Vera C., Sánchez de Medina V.

### **P3.5**

THE SYNTHETIC CANNABINOID URB447 IMPAIRS AGGRESSIVE TUMOR PHENOTYPE AND IN VIVO LIVER METASTASIS OF MELANOMA IN MICE.

Benedicto A., Arteta B., Alonso-Alconada D.

### **P3.6**

LONG-LASTING EFFECTS OF ADOLESCENT BINGE DRINKING IN THE BRAIN ENDOCANNABINOID SYSTEM OF FEMALE MICE.

Lekunberri L., Serrano M., Saumell-Esnaola M., Garcia-Del Caño G., Soria-Gomez E., Mimenza A., Anaut-Lusar I., Bonilla-Del Río I., Egaña-Huguet J., Sallés J., Puente N., Elezgarai I., Rico-Barrio I., Grandes P.

### **P3.7**

NEUROBIOLOGICAL MECHANISMS UNDERLYING VULNERABILITY AND RESILIENCE TO CANNABIS ADDICTION.

Martin-Garcia E., Cajiao M., Casado-Anguera V., García-Blanco A., Senabre E., Maldonado R.

### **P3.8**

OMEGA-3 EFFECTS ON THE IMPAIRED ENDOCANNABINOID SYSTEM IN THE ADULT BRAIN AFTER BINGE DRINKING DURING ADOLESCENCE.

Serrano M., Lekunberri L., Saumell-Esnaola M., Garcia-Del Caño G., Soria-Gomez E., Mimenza A., Anaut-Lusar I., Bonilla-Del Río I., Egaña-Huguet J., Sallés J., Puente N., Elezgarai I., Rico-Barrio I., Grandes P.

**P3.9**

QUANTIFICATION OF PLASMATIC LEVELS OF ENDOCANNABINOIDS IN SUBJECTS WITH SCHIZOPHRENIA WITH AND WITHOUT CANNABIS ABUSE.

Unzueta-Larrinaga P., Calvo A., Villate A., Barrena-Barbadillo R., Etxebarria N., Callado L.F., Urigüen L.



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