

## SUBJECT TEACHING GUIDE

M1349 - Neurotransmitter Receptors

Master's Degree in Mental Health Research

Academic year 2021-2022

1. IDENTIFYING DATA					
Degree	Master's Degree in Mental Health Research			Type and Year	Optional. Year 1
Faculty	Faculty of Medicine				
Discipline	Subject Area: New Mechanisms and Molecular Targets in the Treatment of Psychic Disorders				
Course unit title and code	M1349 - Neurotransmitter Receptors				
Number of ECTS credits allocated	4	Term	Semester based (2)		
Web					
Language of instruction	Spanish	English Friendly	No	Mode of delivery	Face-to-face

Department	DPTO. FISILOGIA Y FARMACOLOGIA				
Name of lecturer	ALVARO MARCELINO DIAZ MARTINEZ				
E-mail	alvaro.diaz@unican.es				
Office	Facultad de Medicina. Planta: + 2. DESPACHO (2120)				
Other lecturers	MARIA ELENA CASTRO FERNANDEZ MARIA FUENCISLA PILAR CUELLAR ALBERT ADELL CALDUCH				

### 3.1 LEARNING OUTCOMES

- 1. To know the aspects related to the central nervous system signaling and the changes associated with psychiatric disorders.
- 2. To know the main characteristics of the neurotransmitter receptors.
- 3. To understand the implications of drug development in the field of mental health.
- 4. To acquire a critical sense to analyze different aspects of brain signaling and diseases of the nervous system.

#### 4. OBJECTIVES

The main objectives are:

1. To understand the relevance, fundamental characteristics, and properties of the cell signaling mechanisms within the nervous system, focusing on those that are receptor-dependent.
2. To integrate this information with their knowledge of the etiopathogenesis and pharmacological treatment of various mental illnesses.

#### 6. COURSE ORGANIZATION

##### CONTENTS

1	General aspects of neurotransmitter receptors. Pharmacological agonism and antagonism.
2	General aspects of neurotransmitter receptors. Radiometric and biochemical receptor identification.
3	General aspects of neurotransmitter receptors. Functional characterization of receptors.
4	General aspects of neurotransmitter receptors. Receptors structure. Signal transduction mechanisms for membrane and nuclear receptors.
5	General aspects of neurotransmitter receptors. Homologous and heterologous regulation of receptors.
6	Receptors and signalling pathways involved in neuropsychiatric diseases. New perspectives.

#### 7. ASSESSMENT METHODS AND CRITERIA

Description	Type	Final Eval.	Reassessn	%
Bibliographic review about a scientific topic of the course (80% of the final grade).	Work	No	Yes	80,00
Participation during classes and in scientific forums (20%).	Others	No	No	20,00
<b>TOTAL</b>				<b>100,00</b>
<b>Observations</b>				
<p>Evaluation: 80% Individual work on a topic related to the topics taught during the course. Deadline May 30, 2021. Participation during classes and in scientific forums (20%). 20% Participation in scientific discussion classes and forums.</p> <p>Observations: As it is a face-to-face course, attendance is compulsory (unless the teaching must be non-face-to-face due to health circumstances). The maximum number of absences admitted is two classes.</p>				
<b>Observations for part-time students</b>				
N/A				

#### 8. BIBLIOGRAPHY AND TEACHING MATERIALS

##### BASIC

- Receptores para Neurotransmisores. JA García Sevilla, A. Pazos. Ediciones en Neurociencia, Barcelona, 2003.
- Receptor and Ion Channel Detection in the Brain: Methods and Protocols. Lujan R., Ciruela F. Neuromethods. 1st ed. 2016.

