

**Part A. PERSONAL INFORMATION**

**CV date** Sept.-2024

First and Family name	Javier Turnay Abad		
Social Security, Passport, ID number	00393188A	Age	63
Researcher codes	ORCID	0000-0002-6135-2179	
	SCOPUS Author ID	6701357328	
	WoS Researcher ID	K-4551-2014	

**A.1. Current position**

Name of University/Institution	Universidad Complutense de Madrid		
Department	Biochemistry and Molecular Biology		
Address and Country	Faculty of Chemistry, Madrid, Spain		
Phone number	913944148	E-mail	turnay@ucm.es
Current position	Full Professor	From	02-02-2017
Key words	Annexins; Apoptosis; Biomaterials; Butyrate; Cell death and differentiation; Colon adenocarcinoma; Extracellular matrix; Intestinal epithelium; Structural and functional characterization of proteins		

**A.2. Education**

PhD, Licensed, Graduate	University	Year
Doctor in Chemistry (Biochemistry)	Universidad Complutense de Madrid	1989
Graduate in Chemistry (Biochemistry)	Universidad Complutense de Madrid	1984

**A.3. General indicators of quality of scientific production (see instructions)**

Positively evaluated six-years research periods: 5 (1986-2015)  
 Number of PhD Thesis supervised in the last 10 years: 3 (2 with "Doctor Europaeus" Mention)  
 Total number of citations (Google Scholar): 5165  
 Average number of citations/year (2017-2023): 277  
 Total number of publications in the first quartile: 42 (12 in the top 10%)  
 h-index: 35 (Google Scholar); i10-index: 58 (Google Scholar)

**Part B. CV SUMMARY**

I graduated in Chemistry (specialization in Biochemistry) in June 1984 at the Complutense University of Madrid (UCM). After graduation, I obtained an FPI-fellowship to carry on my PhD Thesis in the Department of Biochemistry and Molecular Biology I (UCM), which was defended in September 1989. In October 1989, I became part of the UCM academic staff, firstly as full-time Assistant Professor until February 2002, when I became Associate Professor in Biochemistry and Molecular Biology and, finally, in February 2017, Full-Professor, both in public competitive processes. My academic activity has been carried out mainly at the Dept. of Biochemistry and Molecular Biology I (UCM) as head of student laboratories, and as professor responsible of organizing seminars and in charge of several practical and theoretical courses in which the department is involved. In addition, I have supervised several Minor-Graduation Thesis and Master Thesis, I have been supervisor of three PhD Thesis, and I am currently supervisor of another three.

Since 1985, and in parallel to my academic activity, I have been continuously involved in research which was financed by several different competitive fellowships and grants (as collaborator and/or PI). This activity was mainly carried out at the department of Biochemistry and Molecular Biology of the Complutense University of Madrid, but also at the Max-Planck Institute in Erlangen (Germany) as staff postdoctoral researcher (1991-1992) and, later on, as PI from a European Community Grant (18 months, 1992-1994). More recently, I have been PI of two Santander-UCM Grants (2017-2020) and am currently co-PI of a MICINN Grant (2021-2024) together with Prof. Mayte Villalba.



The research activity has been diverse, but the main research line has been centered in colorectal cancer (CRC). Initially, research was directed towards the establishment of CRC-derived cell lines to study the influence of extracellular matrix proteins and their degradation in the behavior of these cells. Later, studies evolved towards the analysis of the molecular mechanisms involved in the induction of cell death and differentiation induced by different agents as bile acids or short chain fatty acids (SCFAs). Among the latter, the effects of butyrate -the main nutrient and homeostasis-regulator of colon epithelial cells- on cell signaling pathways and on the regulation of the transcription of specific genes were studied. In addition, we established a cell line permanently resistant to the apoptotic effects of butyrate; the molecular mechanisms underlying resistance are currently under study. In parallel, research has also been directed towards cloning, expression, purification, and structural and functional characterization of proteins, several of them related to the above-mentioned research carried out by the group. In addition, during my postdoctoral stay in Erlangen, I worked on the transcriptional regulation of genes involved in cartilage differentiation, as collagen type X and annexins. Nowadays, research is centered in the role of the intestinal epithelial barrier in the allergic response to foods. Moreover, I am proficient in bioinformatics and scientific database management. The research activity has been included in numerous publications in prestigious peer-reviewed international journals, in reviews requested by editors and in conferences at scientific congresses.

My research activity has produced more than 70 JCR-rated articles in international journals, various reviews required by the editors, and numerous congress communications.

## **Part C. RELEVANT MERITS** (sorted by typology)

### **C.1. Publications** (last 10 years)

- Parrón-Ballesteros J, Martín-Pedraza L, Gordo RG, Mayorga C, Pastor-Vargas C, Titau-Delgado GA, Villalba M, Batanero E, Pantoja-Uceda D, **Turnay J** (2024) Long chain fatty acids block allergic reaction against lipid transfer protein Sola I 7 from tomato seeds. *Protein Sci* **33(9)**:e5154. doi: 10.1002/PRO.5154
- Castromil-Benito ES, Betancor D, Parrón-Ballesteros J, Gordo RG, Bueno-Díaz C, Gutiérrez-Díaz G, **Turnay J**, De las Heras M, Cuesta-Herranz J, Villalba M, Pastor-Vargas C (2024) Walnut Jug r 1 is responsible for primary sensitization among patients suffering walnut-hazelnut 2S albumin cross-reactivity. *J Agric Food Chem* **72(32)**:18162–18170. doi: 10.1021/acs.jafc.4c03603
- Coloma I, Parrón-Ballesteros J, Cortijo M, Cuerva C, **Turnay J**, Herrero S (2024) Overcoming Resistance of Caco-2 cells to 5-Fluorouracil through Diruthenium Complex Encapsulation in PMMA Nanoparticles. *Inorganic Chemistry* **63(28)**:12870-12879, doi: 10.1021/acs.inorgchem.4c01323
- Gutiérrez-Díaz G, Betancor D, Parrón-Ballesteros J, Gordo RG, Castromil-Benito ES, Haroun E, Vázquez de la Torre M, **Turnay J**, Villalba M, Cuesta-Herranz J y Pastor-Vargas C (2024) Identification of New Allergens in Macadamia Nut and Cross-Reactivity with Other Tree Nuts in a Spanish Cohort. *Nutrients* **16(7)**:947, doi: 10.3390/nu16070947
- Parrón-Ballesteros J, Gordo RG, López-Rodríguez JC, Olmo N, Villalba, M, Batanero E, **Turnay J**. (2023) Beyond allergic progression: from molecules to microbes as barrier modulators in the gut-lung axis functionality. *Front Allergy* **4**:1093800. doi: 10.3389/falgy.2023.1093800.
- López-Rodríguez JC, Martínez-Carmona FJ, Rodríguez-Crespo I, Lizarbe MA, **Turnay J**. (2018) Molecular dissection of the membrane aggregation mechanisms induced by monomeric annexin A2. *BBA-Mol Cell Res* **1865**:863-873 (IF:4,739; Q1 en Bioquímica y Biología Molecular, 55/299). doi: 10.1016/j.bbamcr.2018.03.010
- Lizarbe MA, Calle-Espinosa J, Fernández-Lizarbe E, Fernández-Lizarbe S, Olmo N, **J. Turnay** (2017) Colorectal cancer: from the genetic model to post-transcriptional regulation by non-coding RNAs. *BioMed Res Int* **2017**:7354260 (38 páginas; IF: 2,583; Q2 en Biotecnología y Microbiología aplicada, 66/161). doi: 10.1155/2017/7354260



- Fernández-Lizarbe S, Lecona E, Santiago-Gómez A, Olmo N, Lizarbe MA, **J. Turnay** (2017) Structural and lipid-binding characterization of human annexin A13a reveals strong differences with its long A13b isoform. *Biol Chem* **398**:359-371 (IF: 3,022; Q2 en Bioquímica y Biología Molecular, 139/293). doi: 10.1515/hsz-2016-0242
- Santiago-Gómez A, Barrasa JI, Olmo N, Lecona E, Burghardt H, Palacín M, Lizarbe MA, **Turnay J** (2013) 4F2hc-silencing impairs tumorigenicity of HeLa cells via modulation of galectin-3 and  $\beta$ -catenin signaling, and MMP-2 expression. *BBA-Mol Cell Res* **1833**:2045-2056 (IF: 5,297; Q1 en Bioquímica y Biología Molecular, 52/291). doi: 10.1016/j.bbamcr.2013.04.017
- Lizarbe MA, Barrasa JI, Olmo N, Gavilanes F, **Turnay J** (2013) Annexin-phospholipid interactions. Functional implications. *Int J Mol Sci* **14**:2652-2683 (IF: 2,339; Q2 en Química multidisciplinar, 52/148). doi: 10.3390/ijms1402265
- Barrasa JI, Olmo N, Lizarbe MA, **Turnay J** (2013) Bile acids in the colon, from healthy to cytotoxic molecules. *Toxicol In Vitro* **27**:964-977 (IF: 3,207; Q2 en Toxicología, 22/87). doi: 10.1016/j.tiv.2012.12.020

## C.2. Research projects (last 10 years)

1. CM-REACT ANTICIPA-UCM. Anticipation and prevention of COVID-19 in the Community of Madrid (ANTICIPA-UCM). Expressions of interest for the realization of R&D projects on COVID-19 response funded by the FEDER - REACT-EU resources. Total amount funded: 8.5 million €. Duration: 2022. PI: José Manuel Bautista (UCM). The UCM-ESFUNPROT group, to which **Dr. Javier Turnay** belongs, participates as a collaborating group in subproject 5, with the main objective of producing protein immunogens and antibodies, and has been allocated 155,000.00 € of funding.
2. PID2020-116692RB-I00, Allergens and the gut-lung axis: New approaches to allergy diagnosis and therapy (ALLERGLA). Ministerio de Ciencia e Innovación. **coPIs**: Dra. M<sup>a</sup> Teresa Villalba and **Dr. Javier Turnay** (UCM). 1/09/2021 – 31/08/2024. 217.800€.
3. RD16/0006/0014 (RETICS 2016), Asthma, Medical Adverse Reactions and Allergy. Instituto de Salud Carlos III. PI: Dr. Mayte Villalba. 1/01/2022—31/12/2022. 135.000 €.
4. PR75/18-21610: “Tumorigenicity and apoptosis-resistance in colorectal cancer cells; response to chemotherapeutic agents and/or radiation. MicroRNA involvement”. Banco Santander. Proyectos de Investigación Santander-Complutense. **Principal Investigator: Javier Turnay Abad**. 01/01/2018- 27/12/2020. 9.000 €.
5. PR26/16-20323: “Role of microRNAs in apoptosis resistance in colorectal cancer cells”. Banco Santander. Proyectos de Investigación Santander-Complutense. **Principal Investigator: Javier Turnay Abad**. 01/01/2017- 30/04/2018. 9.000 €.

## C.5. Other merits

- SCIENTIFIC ADVISOR for the german Biotechnology company NOVEMBER A.G. (Gesellschaft für Molekulare Biologie) from 1998 until 2010.
- Scientific evaluator for competitive projects/grants (ANEP, FIS/ISCIII, ACSUCYL, Proyectos de Investigación Santander/UCM) and reviewer for several international scientific journals (Sci Rep, Cell Death Differ, Biochim Biophys Acta, Toxicol In Vitro, etc.)
- Member of the Research Committee of the Faculty of Biology (UCM).
- Co-coordinator of the PhD programme in Biochemistry, Molecular Biology and Biomedicine of the Complutense University of Madrid.

## PhD Thesis supervised:

- *Structural and functional characterization of annexins involved in differentiation and malignancy of colorectal cancer*. PhD fellow: Francisco José Martínez Carmona. Complutense University of Madrid. Faculty of Chemistry. 2023. Sobresaliente “cum laude”.



- Structure of the ectodomain of 4F2hc and its role in tumorigenesis. Effects of butyrate and bile acids on colon adenocarcinoma cells. (*Doctor Europaeus*). PhD fellow: Angélica Santiago Gómez. Complutense University of Madrid. Faculty of Chemistry. 2012. Sobresaliente “cum laude”.
- Effect of intestinal lumen components on human colon adenocarcinoma cells. Bile acid-induced apoptosis and regulation of gene transcription by butyrate. (*Doctor Europaeus*). PhD fellow: Juan I. Barrasa López. Complutense University of Madrid. Faculty of Chemistry. 2012. Sobresaliente “cum laude”.
- Structural and functional characterization of annexin A5. Expression of annexins during cell proliferation and differentiation. PhD fellow: Ana Guzmán Aránguez. Complutense University of Madrid. Faculty of Chemistry. 2004. Apto “cum laude”.
- Jorge Parrón Ballesteros (ID card: 11.899.195F). *Role of the intestinal epithelial barrier in food allergy; influence of SCFAs and other intestinal lumen components*. (since 2020; Contracted under project: PID2020-116692RB-I00)
- Rubén García Gordo (ID card: 50257553T). *Effect of food allergens in the immune response of the intestinal epithelium*. (since 2021; Contracted under project: PID2020-116692RB-I00)

#### **Graduation and Master Thesis supervised** (all of them with the highest mark):

- “*Role of the intestinal epithelium in the food-allergy response*” Master Thesis (Immunological Research). Rubén García Gordo. Faculty of Medicine. UCM. Madrid, 2021.
- “*Characterization of the interaction of human annexin A2 with model membranes; induction of aggregation*”. Graduation Thesis. Elena García Mozo. Faculty of Chemistry. UCM. Madrid, 2017.
- “*Effect of 5-fluorouracil in human colon adenocarcinoma cells sensitive and resistant to butyrate*”. Graduation Thesis. Rocío Bartolomé Cabrero. Faculty of Chemistry. UCM. Madrid, 2017.
- “*Production and characterization of pheromonicins against colon cancer*”. Master Thesis. Miguel Ángel Robles Ramos. Faculty of Chemistry. UCM. Madrid, 2016.
- “*Expression of annexin A13 isoforms in human colon adenocarcinoma cells. Effects of sodium butyrate*”. Graduation Thesis. Blanca M<sup>a</sup> Sánchez Alfayate. Faculty of Biology. UCM. Madrid, 2014.
- “*Purification and characterization of human recombinant annexin A2*”. Master Thesis. Juan Carlos López Rodríguez. Faculty of Chemistry. UCM. Madrid, 2013.
- “*Role of miRNAs in the effects of butyrate on human colon adenocarcinoma cells*”. Graduation Thesis. Jorge Calle Espinosa. Faculty of Chemistry. UCM. Madrid, 2013.
- “*Effect of oxaliplatin and irinotecan on human colon adenocarcinoma cells*”. Master Thesis. Lara Martínez Murias. Faculty of Chemistry. UCM. Madrid, 2011.
- “*Role of mytogen-activated protein kinases (MAPKs) in the response of colon adenocarcinoma cells to luminal intestinal compounds*”. Graduation Thesis. Beatriz Llorente Robledo. Facultad de Ciencias Biológicas. UCM. Madrid, 2007.
- “*Expression and characterization of mouse recombinant annexin A11*”. Graduation Thesis. Emilio Lecona Sagrado. Faculty of Chemistry. Universidad Complutense. Madrid, 2002.
- “*Structure and function of annexin-V: involvement in oligomerization and phospholipid-vesicle aggregation processes*”. Graduation Thesis. Ana Guzmán Aránguez. Faculty of Chemistry. Universidad Complutense. Madrid, 2001.
- “*Expression of heat-shock proteins in human colon adenocarcinoma cells*”. Graduation Thesis. Marta García Díez. Faculty of Chemistry. Universidad Complutense. Madrid, 2000.
- “*Involvement of matrix metalloproteinases in the acquisition of a metastatic phenotype in human colon adenocarcinoma BCS-TC2 cells*”. Graduation Thesis. Isabel López de Silanes Asenjo. Faculty of Chemistry. Universidad Complutense. Madrid, 1997.
- “*Structural and functional characterization of chicken recombinant annexin V*”. Graduation Thesis. faculty of Chemistry. UCM. Madrid 1997.