

Curriculum vitae

Javier Angulo Frutos

TITULACION ACADEMICA

Licenciado en CC. Biológicas

Especialidad de Bioquímica y Biología Molecular
Universidad Autónoma de Madrid (1986 - 1991)

Doctor en CC. Biológicas por el Dpto. de Bioquímica de la Universidad Autónoma de Madrid (Octubre, 1996)

ACTIVIDAD INVESTIGADORA

Becario predoctoral en el Departamento de Farmacología y Terapéutica de la Facultad de Medicina de la Universidad Autónoma de Madrid. 1992-96.

Becario postdoctoral en el Departamento de Farmacología y Terapéutica de la Facultad de Medicina de la Universidad Autónoma de Madrid. 1996-98.

Becario postdoctoral en la Unidad de Investigación del Hospital Universitario de Getafe. 1996-98.

Director del Laboratorio de Investigación de la Fundación para la Investigación y el Desarrollo en Andrología / Instituto de Medicina Sexual. 1998-2006.

SITUACION ACTUAL

Contratado como Técnico Titulado Superior del Servicio de Histología, Departamento de Investigación del Hospital Ramón y Cajal desde diciembre de 2006.

PUBLICACIONES

1. GONZALEZ R, FERNANDEZ-ALFONSO MS, RODRIGUEZ-MARTINEZ MA, FUERTES E, **ANGULO J**, SANCHEZ-FERRER CF, MARIN J. Pressure-induced contraction of the juxtamedullary afferent arterioles in spontaneously hypertensive rats. *Gen Pharmacol*, **25**: 333-339, 1994.

2. PEIRO C, REDONDO J, RODRIGUEZ-MARTINEZ MA, **ANGULO J**, MARIN J, SANCHEZ-FERRER CF Influence of endothelium on cultured vascular smooth muscle cell proliferation. *Hypertension*, **25 (part 2)**: 748-751, 1995.

3. **ANGULO J**, SANCHEZ-FERRER CF, PEIRO C, MARIN J, RODRIGUEZ-MAÑAS L. Impairment of endothelium-dependent relaxation by increasing percentages of glycosylated human hemoglobin. Possible mechanisms involved. *Hypertension*, **28**: 583-592, 1996.
4. GONZALEZ R., VILLA E, GARCIA-ROBLES R., **ANGULO J**, PEIRO C, MARIN J, SANCHEZ-FERRER CF Effects of indomethacin and iloprost on the afferent arterioles contraction by endothelin-1 in juxtamedullary nephron preparations from normotensive Wistar Kyoto and spontaneously hypertensive rats. *J Cardiovasc Pharmacol*, **28**: 809-816, 1996.
5. PEIRO C, **ANGULO J**, REGADERA J, LLERGO J.L, SANCHEZ-FERRER A, RODRIGUEZ-MAÑAS L, SANCHEZ-FERRER CF Nifedipine, losartan and captopril effects on hyperplasia of vascular smooth muscle from Ren-2 transgenic rats. *Eur J Pharmacol*, **324**: 257-265, 1997.
6. PEIRO C, LLERGO J.L, **ANGULO J**, LOPEZ-NOVOA J.M., RODRIGUEZ-LOPEZ A, RODRIGUEZ-MAÑAS L, SANCHEZ-FERRER CF Effects of captopril, losartan, and nifedipine on cell hypertrophy of cultured vascular smooth muscle from hypertensive Ren-2 transgenic rats. *Br J Pharmacol*, **121**: 1438-1444, 1997.
7. PEIRO C, **ANGULO J**, LLERGO JL, RODRIGUEZ-MAÑAS L, MARIN J, SANCHEZ-FERRER CF: Angiotensin II mediates cell hypertrophy in vascular smooth muscle cultures from hypertensive Ren-2 transgenic rats by an amiloride- and furosemide-sensitive mechanism. *Biochem Biophys Res Commun*, **240**: 367-371, 1997.
8. PEIRO C, RODRIGUEZ-LOPEZ AM, **ANGULO J**, REGADERA J, MARIN J, SANCHEZ-FERRER CF, LOPEZ-NOVOA JM: Endogenous angiotensin II and cell hypertrophy in vascular smooth muscle cultures from hypertensive Ren-2 transgenic rats. *Cell Physiol Biochem*, **8**: 160-, 1998.
9. RODRIGUEZ-MAÑAS L, **ANGULO J**, PEIRO C, LLERGO JL, SANCHEZ-FERRER A, LOPEZ-DORIGA P, SANCHEZ-FERRER CF: Endothelial dysfunction and metabolic control in streptozotocin-induced diabetic rats. *Br J Pharmacol*, **123**: 1495-1502, 1998.
10. PEIRO C, **ANGULO J**, RODRIGUEZ-MAÑAS L, LLERGO JL, VALLEJO S, CERCAS E, SANCHEZ-FERRER CF: Vascular smooth muscle cell hypertrophy induced by glycosylated human oxyhaemoglobin. *Br J Pharmacol*, **125**: 637-644, 1998.
11. **ANGULO J**, RODRIGUEZ-MAÑAS L, PEIRO C, NEIRA M, MARIN J, SANCHEZ-FERRER CF: Impairment of nitric oxide mediated relaxations in anaesthetized autoperfused streptozotocin-induced diabetic rats. *Naunyn-Schmiedeberg's Arch Pharmacol*, **358**: 529-537, 1998.
12. LUJAN M, PAEZ A, LLANES L, **ANGULO J**, BERENGUER A: Role of autonomic innervation in rat prostatic structure maintenance: a morphometric analysis. *J Urol*, **160**: 1919-1923, 1998.

13. **ANGULO J**, RODRIGUEZ-MAÑAS L, PEIRO C, VALLEJO S, SANCHEZ-FERRER A, SANCHEZ-FERRER CF: Impairment of endothelial relaxations by glycosylated human oxyhemoglobin depends on the oxidative state of the heme group. *Gen Pharmacol*, **32**: 475-481, 1999.
14. SAENZ DE TEJADA I, GARVEY DS, SCHROEDER JD, SHELEKIN T, LETTS LG, FERNANDEZ A, CUEVAS B, GABANCHO S, MARTINEZ V, **ANGULO J**, TROCHA M, MAREK P, CUEVAS P, TAM SW: Design and evaluation of nitrosylated α -adrenergic receptor antagonists as potential agents for the treatment of impotence. *J Pharmacol Exp Ther*, **290**: 121-128, 1999.
15. SANCHEZ-FERRER CF, **ANGULO J**, VALLEJO S, PEIRO C, LLERGO JL, SANCHEZ-FERRER A, CERCAS E, RODRIGUEZ-MAÑAS L: Relación entre control metabólico y disfunción endotelial en ratas diabéticas. *Nefrología*, **19 (Suppl 1)**: 53-58, 1999.
16. PEIRO C, VALLEJO S, NEVADO J, **ANGULO J**, LLERGO JL, CERCAS E, RODRIGUEZ-MAÑAS L, SANCHEZ-FERRER CF. Pharmacological interference of vascular smooth muscle cell hypertrophy induced by glycosylated human oxyhaemoglobin. *Eur J Pharmacol*, **386**: 317-321, 1999.
17. VALLEJO S, **ANGULO J**, PEIRO C, NEVADO J, SANCHEZ-FERRER A, PETIDIER R, SANCHEZ-FERRER CF, RODRIGUEZ-MAÑAS L. Highly glycated oxyhaemoglobin impairs nitric oxide relaxations in human mesenteric microvessels. *Diabetologia*, **43**: 83-90, 2000.
18. VALLEJO S, **ANGULO J**, PEIRO C, CERCAS E, SANCHEZ-FERRER A, NEVADO J, LLERGO JL, RODRIGUEZ-MAÑAS L, SANCHEZ-FERRER CF. Treatment with acarbose may improve endothelial dysfunction in streptozotocin-induced diabetic rats. *J Cardiovasc Pharmacol*, **36**: 255-262, 2000.
19. VALLEJO S, **ANGULO J**, PEIRO C, SANCHEZ-FERRER A, CERCAS E, NEVADO J, SANCHEZ-FERRER CF, RODRIGUEZ-MAÑAS L. Correction of glycosylated oxyhemoglobin-induced impairment of endothelium-dependent vasodilatation by gliclazide. *J Diabetes Complications*, **14**: 207-214, 2000.
20. VALLEJO S, **ANGULO J**, PEIRO C, SANCHEZ-FERRER A, CERCAS E, LLERGO JL, NEVADO J, SANCHEZ-FERRER CF, RODRIGUEZ-MAÑAS L. Prevention of endothelial dysfunction in streptozotocin-induced diabetic rats by gliclazide treatment. *J Diabetes Complications*, **14**: 224-233, 2000.
21. **ANGULO J**, CUEVAS P, MONCADA I, MARTIN-MORALES A, ALLONA A, FERNANDEZ A, GABANCHO S, NEY P, SAENZ DE TEJADA I. Rationale for the combination of PGE₁ and S-nitroso glutathione to induce relaxation of human penile smooth muscle. *J Pharmacol Exp Ther*, **295**: 586-593, 2000.
22. **ANGULO J**, CUEVAS P, FERNANDEZ A, GABANCHO S, SAENZ DE TEJADA I. Combination of phentolamine and L-arginine or sildenafil synergistically improves

neurogenic relaxation of rabbit corpus cavernosum smooth muscle. *Urology*, **57**: 585-589, 2001.

23. SAENZ DE TEJADA I, **ANGULO J**, CUEVAS P, FERNÁNDEZ A, MONCADA I, ALLONA A, LLEDÓ E, KÖRSCHEN HG, NIEWÖHNER U, HANING H, PAGES E, BISCHOFF E. The phosphodiesterase inhibitory selectivity and the in vitro and in vivo potency of the new PDE5 inhibitor vardenafil. *Int J Impot Res*, **13**: 282-289, 2001.

24. **ANGULO J**, PEIRO C, SANCHEZ-FERRER CF, GABANCHO S, CUEVAS P, GUPTA S, SAENZ DE TEJADA I. Differential effects of serotonin reuptake inhibitors on erectile responses, NO-production, and neuronal NO synthase expression in rat corpus cavernosum tissue. *Br J Pharmacol*, **134**: 1190-1194, 2001.

25. **ANGULO J**, CUEVAS P, LA FUENTE JM, POMEROL JM, RUIZ-CASTAÑE E, PUIGVERT A, GABANCHO S, FERNANDEZ A, NEY P, SAENZ DE TEJADA I. Regulation of human penile smooth muscle by prostanoid receptors. *Br J Pharmacol*, **136**: 23-30, 2002.

26. **ANGULO J**, CUEVAS P, FERNÁNDEZ A, GABANCHO S, ALLONA A, MARTÍN-MORALES A, MONCADA I, SÁENZ DE TEJADA I. Activation and potentiation of NO/cGMP pathway by N^G-hydroxy-L-arginine in rabbit corpus cavernosum under normoxic and hypoxic conditions and ageing. *Br J Pharmacol*, **138**: 63-70, 2003.

27. RODRIGUEZ-MAÑAS L, **ANGULO J**, VALLEJO S, PEIRO C, SANCHEZ-FERRER A, CERCAS E, SANCHEZ-FERRER CF. Early and intermediate Amadori glycosylation adducts, oxidative stress, and endothelial dysfunction in the streptozotocin-induced diabetic rats vasculature. *Diabetologia*, **46**: 556-566, 2003.

28. **ANGULO J**, BISCHOFF E, GABANCHO S, CUEVAS P, SAENZ DE TEJADA I. Vardenafil reverses erectile dysfunction induced by paroxetine in the rat. *Int J Impot Res*, **15**: 90-93, 2003.

29. **ANGULO J**, CUEVAS P, CUEVAS B, BISCHOFF E, SAENZ DE TEJADA I. Vardenafil enhances clitoral and vaginal blood flow responses to pelvic nerve stimulation in female dogs. *Int J Impot Res*, **15**: 137-141, 2003.

30. **ANGULO J**, CUEVAS P, FERNANDEZ A, GABANCHO S, VIDELA S, SAENZ DE TEJADA I. Calcium dobesilate potentiates endothelium-derived hyperpolarizing factor-mediated relaxation of human penile resistance arteries. *Br J Pharmacol*, **139**: 854-862, 2003.

31. **ANGULO J**, CUEVAS P, FERNANDEZ A, GABANCHO S, ALLONA A, MARTIN-MORALES A, MONCADA I, VIDELA S, SAENZ DE TEJADA I. Diabetes impairs endothelium-dependent relaxation of human penile vascular tissues mediated by NO and EDHF. *Biochem Biophys Res Commun*, **312**: 1202-1208, 2003.

32. **ANGULO J**, CUEVAS P, CUEVAS B, GUPTA S, SAENZ DE TEJADA I. Mechanisms for the inhibition of genital vascular responses by antidepressants in a female rabbit model. *J Pharmacol Exp Ther*, **310**: 141-149, 2004.
33. **ANGULO J**, CUEVAS P, GABANCHO S, GONZALEZ-CORROCHANO R, VIDELA S, SAENZ DE TEJADA I. Enhancement of both, endothelium-derived hyperpolarizing factor and nitric oxide/cyclic guanosin-monophosphate pathways reverses erectile dysfunction in diabetic rats. *J Sex Med*, **2**: 317-322, 2005.
34. GARCIA-GOMEZ I, GOLDSMITH HS, **ANGULO J**, PRADOS A, LOPEZ-HERVAS P, CUEVAS B, DUHOVNY M, CUEVAS P. Angiogenic capacity of human omental stem cells. *Neurol Res*, **27**: 807-811, 2005.
35. **ANGULO J**, CUEVAS P, CUEVAS B, BISCHOFF E, SAENZ DE TEJADA I. Vardenafil reverses antidepressant-induced inhibition of genital vascular responses in female rabbits. *J Sex Med*, **3**: 988-995, 2006.
36. **ANGULO J**, CUEVAS P, FERNÁNDEZ A, ALLONA A, MONCADA I, MARTÍN-MORALES A, LA FUENTE JM, SAENZ DE TEJADA I. Enhanced thromboxane receptor mediated-responses and impaired endothelium-dependent relaxation in human corpus cavernosum from diabetic impotent men: Role of protein kinase C activity. *J Pharmacol Exp Ther*, **319**: 783-789, 2006.

CAPITULOS Y REVISIONES

1. **ANGULO J**, CUEVAS P, SAENZ DE TEJADA I. Bradykinin mediates vasoactive effects of fibroblast growth factors. In: Cuevas P (ed). *Fibroblast Growth Factor in the Cardiovascular System*. I. Holzapfel Publishers, Munich, pp 67-74, 2002.
2. SAENZ DE TEJADA I, **ANGULO J**, CELLEK S, GONZALEZ-CADAVID N, HEATON J, PICKARD R, SIMONSEN U. Physiology of erectile function and pathophysiology of erectile dysfunction. In: *Sexual Medicine. Sexual Dysfunctions in Men and Women*. Lue TF, Basson R, Rosen R, Giuliano F, Khoury S, Montorsi F (eds). Health Publications, París, pp 287-343, 2004.
3. SAENZ DE TEJADA I, **ANGULO J**, CELLEK S, GONZALEZ-CADAVID N, HEATON J, PICKARD R, SIMONSEN U. Physiology of erectile function. *J Sex Med*, **1**: 254-265, 2004.
4. SAENZ DE TEJADA I, **ANGULO J**, CELLEK S, GONZALEZ-CADAVID N, HEATON J, PICKARD R, SIMONSEN U. Pathophysiology of erectile dysfunction. *J Sex Med*, **2**: 26-39, 2005.

PONENCIAS INVITADAS EN CONGRESOS

1. **ANGULO J**. Mechanisms for drug-induced erectile dysfunction. 4th Congress of the Federation of the European Pharmacological Societies (EPHAR) Porto, julio, 2004.

2. **ANGULO J.** Avances en Fisiología de la Erección. Primer Symposium Internacional sobre Avances en Biología Molecular y Terapéutica en Urología. Bilbao, octubre, 2004.
4. **ANGULO J.** Male and female genital responses - Vascular function in health and disease. 8th Congress of the European Society of Sexual Medicine. Copenhagen, December, 2005.
5. **ANGULO J.** Profundizando en la farmacología de los inhibidores PDE5 – Aparición del efecto, duración, interacciones y dosificación. XIII Reunión del Grupo Uro-Andrológico. Bilbao, marzo, 2006.
6. **ANGULO J.** Vascular responses and sexual function. 2006 Annual Meeting of the International Society for the Study of Women's Sexual Health. Lisbon, March, 2006.
7. **ANGULO J.** Fisiología de lo tejido endotelial. VII Reunión Ibérica de Andrología e Medicina Sexual y X Congresso de la Sociedade Portuguesa de Andrologia. Vidago, junio, 2006.

PREMIOS

Abbot Erectile Dysfunction Research Award 2001.

European Society for Sexual Medicine Awards: Best presentations of the 7th Congress of the European Society for Sexual Medicine, London, diciembre 2004.

European Society for Sexual Medicine Awards: Award of Excellence 2005.

ACTIVIDAD DOCENTE

Profesor Honorario del departamento de Farmacología y Terapéutica de la Facultad de Medicina de la Universidad Autónoma de Madrid, desde el curso 1997-98 hasta el curso 2002-03. Colaborador Clínico Docente del departamento de Farmacología y Terapéutica de la Facultad de Medicina de la Universidad Autónoma de Madrid, desde el curso 2003-04.

OTROS MERITOS

Miembro del comité: Physiology, Molecular Biology of Erectile Function and Pathophysiology of Erectile Dysfunction del 2nd International Consultation on Erectile and Sexual Dysfunctions (2002-2003).

Miembro del Comité Científico, subcomité: Basic Science, de los 4 últimos Congresos de la European Society for Sexual Medicine (2004, 2005, 2006, 2007).