

PERSONAL DATA

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EDUCATION AND SCIENCE TRAINNING

Doctorate in Medicine, PhD (01/2003-07/2005). Department of Internal Medicine, Neurovascular Research Laboratory, Hospital Vall d'Hebron. Universitat Autònoma de Barcelona, Spain. **Doctoral Thesis:** "Matrix Metalloproteinases in brain parenchyma: role in tissue damage after human cerebral ischemia". Universitat Autònoma de Barcelona. July 2005. Maximum Academic Record: Excellent *summa cum laude*.

Minor thesis research (09/2003-09/2004): "Angiogenesis in Human Cerebral Ischemia: the angiogenic balance (Endostatin/VEGF) during the hyperacute phase after ischemic stroke is related to neurological outcome at short and long term". Universtat Autònoma de Barcelona. September 2004.

Master in Internal Medicine: Special branch in Neurology. Universitat Autònoma de Barcelona, Spain. 2003-2004.

Bachelor degree in Biology (09/1996-02/2001): Special Branch: Animal Biology, Organisms and Systems. Universitat Autònoma de Barcelona, Spain.

RESEARCH POSITIONS

Predoctoral fellow (January 2003-July 2005) from the Hospital Vall d'Hebron Research Foundation working in the Neurovascular Research Laboratory from Hospital Vall d'Hebron, Neurovascular Unit, Neurology Department; (Head: Dr. Joan Montaner).

Postdoctoral fellow (from July 2005-May 2006) from the Neurovascular Research Laboratory from Hospital Vall d'Hebron, Neurovascular Unit, Neurology Department. (Head: Dr. Joan Montaner).

Postdoctoral Fellow (From May 2006-September 2007) from Ministerio de Educacion i Ciencia (Spanish

Gouvernement) for a research project and training program at the Neuroprotection Research Laboratory, Massachusetts General Hospital; Radiology Department. Harvard Medical School, Programm in Neuroscience. (Head: Prof. Eng H. Lo).

Postdoctoral Research fellow (September 2007- May 2008). Neuroprotection Research Laboratory, Massachusetts General Hospital; Radiology Department. Harvard Medical School, Programm in Neuroscience. (Head: Prof. Eng H. Lo).

Postdoctoral Researcher (May 2008-present). Neurovascular Research Laboratory from Hospital Vall d'Hebron, Neurovascular Unit, Neurology Department. (Head: Dr. Joan Montaner). Postdoctoral grant from the Catalan Government, program Beatriu Pinós 2008.

PUBLICATIONS

- 1) Eloy Cuadrado, Laura Ortega, Mar Hernández-Guillamon, Anna Penalba, Israel Fernández-Cadenas, **Anna Rosell**, Joan Montaner. Tissue plasminogen activator (t-PA) promotes neutrophil degranulation and MMP-9 release. *J Leukocyte Biology*, 2008, Apr 7.
- 2) **Anna Rosell***, Eng H. Lo*. Multiphasic Roles for Matrix Metalloproteinases after Stroke. *Current Opinion in Pharmacology*. 2008 Jan 14; [Epub ahead of print]. (*corresponding autor).
- 3) Anna Vilalta, Juan Sahuquillo, **Anna Rosell**, Maria A. Poca, Marilyn Riveiro, Joan Montaner. Early Systemic and Brain-Selective Overexpression of Gelatinases after Traumatic Brain Injury in Humans. *Intensive Care Medicine*. 2008.(in press)
- 4) Pilar Delgado, Eloy Cuadrado, **Anna Rosell**, José Alvarez-Sabin, Arantxa Ortega-Aznar, Mar Hernandez-Guillamon, Anna Penalba, Carlos A Molina, and Joan Montaner. Fas system activation in perihematomal areas after spontaneous intracerebral hemorrhage. *Stroke*, 2008 (in press).
- 5) Yoshihiro Murata, **Anna Rosell**, Robert Scannevin, Kenneth Rhodes, Xiaoying Wang, Eng H. Lo. Extension of the Thrombolytic Time Window with Minocycline in Experimental Stroke. *Stroke*, 2008 (in press).
- 6) **Rosell A**, Cuadrado E, Ortega-Aznar A, Hernández-Guillamon M, Lo EH, Montaner J. MMP-9-positive neutrophil infiltration is Associated to BBB Breakdown and Basal Lamina type IV Collagen Degradation during Hemorrhagic Transformation after Human Ischemic Stroke. *Stroke*. 2008; 39 (in press).
- 7) Joan Montaner, Mila Perea-Gainza, Pilar Delgado, Marc Ribó, Pilar Chacón, **Anna Rosell**, Manolo

- Quintana, Mauricio E. Palacios, Carlos A. Molina, José Alvarez-Sabín. Etiologic Diagnosis of Ischemic Stroke Subtypes Using Plasma Biomarkers. *Stroke*. 2008 (in press).
- 8) Navarro M, **Rosell A**, Hernández-Guillamon M, Cuadrado E, Montaner J. Potencial terapéutico de las células Progenitoras Endoteliales (CPEs) en el Ictus Isquémico. *Rev Neurol*. 2007;45(9):556-62.
 - 9) Seong-Ryong Lee, Josephine Lok, **Anna Rosell**, Hahn-Young Kim, Yoshihiro Murata, Dmitriy Atochin, Paul L. Huang, Xiaoying Wang, Cenk Ayata, Michael A. Moskowitz, Eng H. Lo. Reduction of Hippocampal Cell Death and Proteolytic Responses in Tissue Plasminogen Activator Knockout Mice after Transient Global Cerebral Ischemia. *Neuroscience*. 2007 Nov 30;150(1):50-57.
 - 10) **A. Rosell**, E. Cuadrado, J. Alvarez-Sabín, M. Hernandez-Guillamon, P. Delgado, A. Penalba, M. Mendioroz, A. Rovira, I. Fernández-Cadenas, M. Ribó, C.A. Molina, J. Montaner. Caspase-3 Is Related to Infarct Growth after Human Ischemic Stroke. *Neurosc Lett*. 2008 Jan 3;430(1):1-6.
 - 11) Fernandez-Cadenas I, Alvarez-Sabin J, Ribo M, Rubiera M, Mendioroz M, Molina CA, **Rosell A**, Montaner J. Influence of thrombin-activatable fibrinolysis inhibitor and plasminogen activator inhibitor-1 gene polymorphisms on tissue-type plasminogen activator-induced recanalization in ischemic stroke patients. *J Thromb Haemost*. 2007; 9:1862-1868.
 - 12) Cuadrado E, **Rosell A**, Álvarez-Sabín J, Montaner J. Captura por microdissección láser: una nueva herramienta para el estudio de la isquemia cerebral. *Rev Neurol*. 2007 May 1-15;44(9):551-5.
 - 13) Allard L, Turck N, Burkhard PR, Walter N, **Rosell A**, Gex-Fabry M, Hochstrasser DF, Montaner J, Sanchez JC. Ubiquitin fusion degradation protein 1 as a blood marker for the early diagnosis of ischemic stroke. *Biomarker Insights*. 2007; 2:155–164.
 - 14) Delgado P, Álvarez Sabin J, Santamarina E, Molina CA, Quintana M, **Rosell A**, Montaner J. Blood S100b Level After Acute Spontaneous Intracerebral Hemorrhage. *Stroke*. 2006 Nov;37(11):2837-9.
 - 15) Tejima E, Zhao BQ, Kiyoshi Tsuji, **Rosell A**, van Leyen K, Montaner J, Wang X, Lo EH. Astrocytic induction of matrix metalloproteinase-9 and edema in intracerebral hemorrhage. *J Cereb Blood Flow Metab*. 2007 Mar;27(3):460-8.
 - 16) **Rosell A**, Ortega-Aznar A; Alvarez-Sabín J; Fernandez-Cadenas I; Ribó M; Molina CA; Lo EH; Montaner J. Increased Brain Expression of Matrix Metalloproteinase-9 Following Ischemic and Hemorrhagic Human Stroke. *Stroke*. 2006;37:1399-1406.
 - 17) Delgado P, Alvarez-Sabin J, Abilleira S, Santamarina E, Purroy F, Arenillas JF, Molina CA, Fernandez-Cadenas I, **Rosell A**, Montaner J. Plasma d-dimer predicts poor outcome after acute

intracerebral hemorrhage. *Neurology*. 2006 Jul 11;67(1):94-8.

- 18) Joan Montaner, Israel Fernandez-Cadenas, Carlos A Molina, Marc Ribo, Rafael Huertas, **Anna Rosell**, Anna Penalba, Laura Ortega, Pilar Chacon, and Jose Alvarez-Sabin. Post-stroke C-reactive protein is a powerful prognostic tool among candidates for thrombolysis. *Stroke*. 2006;37:1205-1210.
- 19) Fernández-Cadenas I, Molina C.A., Alvarez-Sabín J, Ribó M, Penalba A, Ortega-Torres L, Delgado P, Quintana M, **Rosell A**, Montaner J. ACE gene polymorphisms influence t-PA-induced brain vessel reopening following ischemic stroke. *Neuroscience letters* 2006; 398(3):167-71.
- 20) Fernández-Cadenas I, Alvarez-Sabín J, Molina C.A., Ribó M, **Rosell A**, Penalba A, Ortega-Torres L, Montaner J. The influence of ApoE genotype on efficacy and safety of thrombolytic treatment for ischemic stroke. *Neurología* 2006; 21(4):176-180.
- 21) **Rosell A**, Alvarez-Sabín J, Arenillas JF, Rovira A, Delgado P, Fernández-Cadenas I, Penalba A, Molina CA, Montaner J. A Matrix Metalloproteinase Protein Array Reveals a Strong Relation between MMP-9 and MMP-13 with Diffusion-Weighted Image Lesion Increase in Human Stroke. *Stroke*. 2005;36: 36(7): 1415-20.
- 22) Turu MM, Krupinski J, Catena E, **Rosell A**, Montaner J, Rubio F, Alvarez-Sabin J, Cairols M, Badimon L. Intraplaque MMP-8 levels are increased in asymptomatic patients with carotid plaque progression on ultrasound. *Atherosclerosis*. 2006 Jul;187(1):161-9.
- 23) Arenillas JF, Alvarez-Sabin J, Montaner J, **Rosell A**, Molina CA, Rovira A, Ribo M, Sanchez E, Quintana M. Angiogenesis in symptomatic intracranial atherosclerosis: predominance of the inhibitor endostatin is related to a greater extent and risk of recurrence. *Stroke*. 2005 Jan;36(1):92-7.
- 24) **Rosell A***, Montaner J, Álvarez Sabín J. Implicación de la angiogénesis en la isquemia cerebral humana. [Angiogenesis in Human Cerebral Ischemia]. 2004. *Rev Neurol* 38(11):1076. (*corresponding autor).

Submitted papers under peer-review:

- **Anna Rosell**, Christian Foerch, Yoshihiro Murata, Eng H. Lo. Mechanisms and Markers for Hemorrhagic Transformation after Stroke. Invited review. *Acta Neurochir*. 2008.

- **Anna Rosell***, Ken Arai, Josephine Lok, Tongrong He, Shu-zhen Guo, Miriam Navarro, Joan Montaner, Zvonimir Katusic, Eng H. Lo. Interleukin 1-beta augments angiogenic responses of murine

endothelial progenitor cells (EPCs) in vitro. JCBFM. 2008. (*corresponding autor).

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Manuscripts in preparation:

- **Rosell A**, Sahuquillo J, Alvarez-Sabín J, Vilalta A, Arenillas JF, Delgado P, Molina CA, Montaner J. Blood and Brain MMP-9 levels in Large Middle Cerebral Artery Infarctions with a Malignant Course. 2008.

BOOKS (Chapters)

- Montaner J, **Rosell A**. Biomarkers. Arboix A (Editor). Métodos Diagnósticos en las Enfermedades Vasculares Cerebrales, 2nd edition. Ed. Ergon, Madrid. 2006.

- **Rosell A**. Modelos in vivo e in vitro de isquemia cerebral. Montaner J (Editor). Marge Editorial, Barcelona. 2007 (in press).

- **Rosell A**, Ning MM, Wang X, Montaner J, Lo EH. The neurovascular Unit. Montaner J (Editor). Marge Ed., Barcelona. 2007 (in press).

MEETINGS (ATTENDANCE)

- XXII Internacional Symposium on Cerebral Blood Flow and Function (Brain07). Osaka, Japan, 2007.

- International Stroke Conference. San Francisco, USA. American Heart Association, February 2007.

- 15th European Stroke Conference, Brussels, Belgium. May 2006.

- 57ª Reunión Annual de la Sociedad Española de Neurología (SEN). Barcelona, Spain.2005.

- 14th European Stroke Conference, Bologna, Italy. May 2005.

- XI Congreso Nacional de la Sociedad Española de Neurociencias (SENC). Málaga, Spain, 2005.

- 56ª Reunión Annual de la Sociedad Española de Neurología (SEN). Barcelona, Spain.2004.

- 55ª Reunión Annual de la Sociedad Española de Neurología (SEN). Barcelona, Spain.2003.

MEETINGS (ABSTRACTS)

1. **A. Rosell**, M. Navarro, J. Lok, K. Arai, J. Montaner, Eng H. Lo. La Interleuquina-1 β mejora la respuesta angiogénica de Células Endoteliales Progenitoras (EPCs) murinas in vitro. *Neurología*. 2007.

2. Fernández-Cadenas, M. Mendioroz, M. Rubiera, A. del Rio, S. Domingues, M. Ribó, O. Maisterra, **A. Rosell**, C.A. Molina, J. Álvarez-Sabín, J. Montaner.El polimorfismo 4G5G del PAI-1 está asociado con la

reclusión de la arteria cerebral media tras terapia fibrinolítica en pacientes con ictus isquémico. *Neurología*. 2007.

3. E. Cuadrado, **A. Rosell**, A. Ortega, M. Hernández, M. Borrell, L. García-Bonilla, M. Navarro, M. Ribó, C.A. Molina, L. Ortega, J. Alvarez-Sabín, J. Montaner. Identificación de niveles elevados de MMP-13 intranuclear en tejido cerebral humano y murino tras la isquemia cerebral. *Neurología*. 2007.
4. M. Navarro, **A. Rosell**, A. Penalba, M. Hernandez, E. Cuadrado, E. Santamarina, M. Rubiera, C. Molina, J. Álvarez-Sabín, J. Montaner. Incremento de los valores plasmáticos de GM-SCF tras el ictus isquémico. *Neurología*. 2007.
5. A. Penalba, L. Ortega, **A. Rosell**, I. Fdez-Cadenas, E. Cuadrado, L. García-Bonilla, M. Mendioroz, M. Quintana, J. El cambio en la relación TH1/TH2 inducido por simvastatina (TH2 shift) en la fase aguda del ictus se asocia a mejoría neurológica e incremento del riesgo de infecciones. *Neurología*. 2007.
6. RH. Scannevin, BC. Magliaro, Y. Wang-Fisher, SL. Burke, Z. Huang, **A. Rosell**, Y. Murata, KI. Carroll, EH. Lo and KJ. Rhodes. Temporal expression patterns of inflammatory molecules in the brain of rats subjected to transient middle cerebral artery occlusion. *Neuroscience*, 2007.
7. **Rosell A**, Cuadrado E, Borrell-Pages M, Navarro M, Hernandez-Guillamon M, Penalba A, Ortega L, Montaner J. Appearance of intra-nuclear matrix metalloproteinases is involved in the early stages of neuronal death following brain ischemia. *Journal of cerebral blood flow and metabolism*, 2007.
8. Murata Y, **Rosell A**, Wang X, Scannevin RH, Rhodes K, Katayama Y, Lo EH. Efficacy of minocycline for delayed tissue plasminogen activator treatment after embolic focal ischemia in rats. *Journal of cerebral blood flow and metabolism*, 2007.
9. J. Montaner, A. Penalba, I. Fernández-Cadenas, M. Navarro, **A. Rosell**, E. Cuadrado-Godia, P. Chacón, O. Maisterra, C.A. Molina, J. Alvarez-Sabín. Th1/Th2 shift induced by simvastatin in the acute phase of ischemic stroke is associated with both neurological improvement and increased risk of infections. *Cerebrovascular Diseases*. 2007.
10. E. Cuadrado, **A. Rosell**, M. Borrell-Pages, M. Hernandez-Guillamon, A. Penalba, L. Ortega, M. Ribo, C.A. Molina, J. Alvarez-Sabin, J. Montaner. Identification of matrix metalloproteinases in ischemic brain tissue and its intra-nuclear location in both human stroke and mcao rat model. *Cerebrovascular Diseases* 2007.
11. I. Fernandez-Cadenas, A. Del Rio, J. Alvarez-Sabin, P. Delgado, M. Mendioroz, E. Santamarina, M. Ribo, C.A. Molina, **A. Rosell**, J. Montaner. mRNA expression level of PAI-1 gene influences revascularisation

- rates of the middle cerebral artery among ischemic stroke patients treated with t-PA. *Cerebrovascular Diseases*. 2007
12. Pilar Delgado, Eloy Cuadrado, **Anna Rosell**, Jose Alvarez Sabin, Arantxa Ortega, Anna Penalba, Mar Hernández, Carlos A Molina, Joan Montaner. Apoptosis Involvement After Human Spontaneous Intracerebral Hemorrhage: Fas System and Caspase-3 in Plasma and Brain Tissue. *Stroke*, 2007.
 13. Joan Montaner, Maite Mendioroz, Israel Fernandez-Cadenas, Marta Rubiera, Esteban Santamarina, Pilar Delgado, Marc Ribo, **Anna Rosell**, Carlos A Molina, Jose Alvarez-Sabin. Circulating Activated Protein C Level Predicts Reperfusion, Hemorrhagic Transformation, and Mortality Following tPA Treatment in Stroke Patients. *Stroke*, 2007.
 14. E. Cuadrado, **A. Rosell**, A. Ortega, M. Hernández, P. Delgado, M. Ribó, C.A. Molina, L. Ortega, J. Álvarez-Sabín, J. Montaner. La infiltración de neutrófilos (MMP-9 +) en capilares del core del infarto se relaciona con rotura de la barrera hematoencefálica y transformación hemorrágica en pacientes con ictus isquémico. *Neurología*, 2006.
 15. J. Montaner, **A. Rosell**, N. Turck, M. Perea-Gainza, N. Corbeto, E. Cuadrado, A. Penalba, C. A. Molina, J. Álvarez-Sabín, J. C. Sánchez. Identificación de nuevos biomarcadores de isquemia cerebral mediante técnicas de proteómica. *Neurología*, 2006.
 16. P. Delgado, M. Mendióroz, I. Fernández- Cadenas, **A. Rosell**, M. Ribó, M. Rubiera, E. Santamarina, C. A. Molina, J. Alvarez-Sabín, J. Montaner. Influencia de los factores de la coagulación endógenos sobre las tasas de recanalización en pacientes con isquemia cerebral tratados con rt-PA. *Neurología*, 2006.
 17. I. Fernández-Cadenas, M.Mendioroz, **A.Rosell**, A.Penalba, L.Ortega, N.Corbeto, J.Álvarez-Sabín, P.Chacón, J.Montaner. La Dislipemia y los Factores Genéticos influyen la recanalización arterial en pacientes con Ictus Isquémicos tratados con t-PA. CEID 2006.
 18. M.Mendioroz, I. Fernández-Cadenas, **A Rosell**, A.Penalba, L.Ortega, N.Corbeto, J.Álvarez-Sabín, P.Chacón, J.Montaner. Grecos Project: genotyping recurrence risk of stroke. CEID 2006.
 19. **Rosell A**, Alvarez-Sabín J, Ortega-Aznar A, Delgado P, Delgado-Mederos R, Fernández-Cadenas I, Cuadrado E, Ribó M, Molina CA, Montaner J. Deleterious Role of Apoptosis in Human Stroke: Caspase-3 is Related to Poor Neurological Outcome Among t-PA Treated Patients and Activated in the Ischemic Brain. *Cerebrovasc Dis* 2006.
 20. J. Montaner, P. Delgado, M. Ribó, M. Rubiera, M.E. Palacios, C.A. Molina, I. Fernández-Cadenas, **A. Rosell**, P. Chacón, J. Alvarez-Sabín. Etiologic diagnosis of stroke subtypes using plasma biomarkers.

Cerebrovasc Dis 2006.

21. P. Delgado, J. Alvarez-Sabin, **A. Rosell**, E. Santamarina, S. Abilleira, C. Molina, I. Fernández-Cadenas, L. Ortega, M. Quintana, J. Montaner. Apoptosis involvement after human spontaneous intracerebral hemorrhage: Soluble Fas and caspase-3 in blood and brain tissue. *Cerebrovasc Dis* 2006.
22. J. Montaner, C. Dominguez, P. Delgado, M. Ribó, E. Santamarina, C. Molina, P. Martín, I. Fernández-Cadenas, **A. Rosell**, J. Alvarez-Sabín. Biomarkers of oxidative stress following t-PA induced reperfusion in human stroke. *Cerebrovasc Dis* 2006.
23. Vilalta A, **Rosell A**, Poca MA, Sahuquillo J, Montaner J, Rios JA de los, Riveiro M. Increased levels of matrix metalloproteinase-9 in plasma and brain extracellular fluid in the early phase of traumatic brain injury. *The 8th International Neurotrauma Symposium*, 2006.
24. Montaner J, Delgado P, Ribo M, Purroy F, Rubiera M, Molina CA, Fernandez-Cadenas I, **Rosell A**, Chacón P, Alvarez-Sabín J. Etiologic Diagnosis of Stroke Subtypes Using Plasma Biomarkers. *Stroke*. 2006.
25. **Rosell A**, Ortega A, Alvarez-Sabín J, Vilalta A, Fernández-Cadenas I, Ribó M, Molina CA, Sahuquillo J, Montaner J. Matrix Metalloproteinase-9 over-expression in human brain tissue after ischemic and hemorrhagic stroke. *Neurología*. 2005;20:496.
26. Delgado P, Montaner J, Santamarina E, Purroy F, Delgado R, **Rosell A**, Fernández-Cadenas I, Molina CA, Quintana M, Álvarez-Sabin J. Initial growth speed of spontaneous intracranial hemorrhage predicts neurological outcome at short term. *Neurología*. 2005; 20:490.
27. Delgado P, Álvarez-Sabín J, Santamarina E, Purroy F, Molina CA, Fernández-Cadenas I, **Rosell A**, Penalba A, Montaner J. Perihematoma edema growth is related with apoptosis biomarkers (soluble FAS) after spontaneous intracranial hemorrhage. *Neurología*. 2005;20:490.
28. Fernandez-Cadenas I, Montaner J, , Gonzalez-Conejero R, Iniesta JA ,Vicente V, Corral J, Marti-Fabregas J, Obach V, Millan M , Molina C , Ribo M, **Rosell A**, Penalba A, Ortega-Torres L, Quintana M, Alvarez-Sabín J. Genetic background in ischemic strokes predicts hemorrhagic transformation and recanalization after t-PA treatment. *Neurología*. 2005;20:473
29. Montaner J, Delgado P, Ribó M, Purroy F, Penalba A, **Rosell A**, Chacón P, Molina CA, Romero F, Alvarez-Sabín J. A Panel of Biomarkers May Successfully Predict Acute Stroke Diagnosis. *Neurología*. 2005;20:497.
30. **Rosell A**, Ortega A, Alvarez-Sabín J, Fernández-Cadenas I, Ribó M, Molina CA, Sahuquillo J, Planas

- AM, Montaner J. Matrix Metalloproteinase-9 over-expression in human brain tissue and brain microdialysate after ischemic and hemorrhagic stroke. *Revista de Neurología*. 2005; suppl.2:79.
31. **Rosell A**, Alvarez-Sabín J, Arenillas J.F, Rovira A, Delgado P, Fernández-Cadenas I, Penalba A, Molina C.A, Montaner J. Metalloproteinase-9 and 13 are strongly related with Diffusion-Weighted Image lesion increase and over-expressed into the infarcted core after human stroke. *Cerebrovasc Dis* 2005;19(suppl 2):34.
 32. Delgado P, Alvarez-Sabín J, Ribó M, Purroy F, **Rosell A**, Penalba A, Fernández-Cadenas I, Arenillas J.F, Molina C.A, Montaner J. Differentiating ischemic and hemorrhagic stroke by means of a panel of plasma biomarkers. *Cerebrovasc Dis* 2005;19(suppl 2):63.
 33. Montaner J, Ribo M, Delgado P, Purroy F, Quintana M, Penalba A, **Rosell A**, Chacon P, Arenillas JF, Molina CA, Alvarez-Sabin J. A Panel of Biomarkers May Successfully Predict Acute Stroke Diagnosis. *Stroke*. 2005;36:419.
 34. Montaner J, Ribó M, Delgado P, Purroy F, Quintana M, Penalba A, **Rosell A**, Chacon P, Molina C.A, Alvarez-Sabín J. Biochemical diagnosis of acute stroke using a panel of plasma biomarkers. *Cerebrovasc Dis* 2005;19(suppl 2):47.
 35. Montaner J, **Rosell A**, Delgado P, Ribó M, Purroy F, Penalba A, Fdez-Cadenas I, Molina C, Alvarez-Sabín J. A panel of biomarkers may successfully predict acute stroke diagnosis. *Journal of cerebral blood flow and metabolism*. 2005. Abstract 127
 36. Arenillas JF, Montaner J, Molina CA, **Rosell A**, Rovira A, Frascheri L, Penalba A, Quintana M, Alvarez-Sabín J. Angiogenesis in symptomatic intracranial large-artery occlusive disease: Vascular Endotelial Growth Factor and Endostatin level are related to disease severity. *Stroke* 2004;35:317.
 37. Montaner J, Molina CA, Arenillas JF, Ribó M, Huertas R, Fernández-Cadenas I, **Rosell A**, Penalba A, Monasterio J, Alvarez-Sabín J. Proteolytic modifications on the metalloproteinase system (MMP-9-Laminin-TIMP-1) induced by t-PA treatment for acute cerebral ischemia in humans. *Stroke* 2004;35:339.
 38. Arenillas JF, Montaner J, Molina CA, **Rosell A**, Rovira A, Frascheri L, Penalba A, Quintana A, Alvarez-Sabín J. Angiogenesis in symptomatic intracranial large-artery occlusive disease: vascular endothelial growth factor and endostatin level are related to disease severity. *Stroke* 2004;35: 317.
 39. Arenillas JF, Montaner J, Molina CA, Rovira A, **Rosell A**, Ribó M, Santamarina E, Penalba A, Quintana M, Alvarez-Sabín J. Angiogenesis in symptomatic intracranial large-artery occlusive disease: vascular endothelial growth factor and endostatin level are related to its extent and risk of recurrence.

Cerebrovasc Dis 2004;17(suppl 5):23.

40. Ribó M, Montaner J, Molina CA, Arenillas JF, **Rosell A**, Chacón P, Alvarez-Sabín J. Admission fibrinolytic profile predicts clot lysis resistance in stroke patients treated with tissue plasminogen activator. *Cerebrovasc Dis* 2004;17(suppl 5):33.
41. Montaner J, **Rosell A**, Molina CA, Fernández-Cadenas I, Ribó M, Huertas R, Arenillas JF, Penalba A, Monasterio J, Alvarez-Sabín J. Extracellular matrix (MMP-9-laminin-TIMP-1) modifications induced by thrombolytic treatment (t-PA) for acute cerebral ischemia in humans. *Cerebrovasc Dis* 2004;17(suppl 5):33.
42. Krupinski J, Miguel M, Catena E, **Rosell A**, Montaner J, Alvarez-Sabín J, Cairols M, Badimón L, Rubio F. Matrix metalloproteinases in patients with advanced carotid atherosclerosis. *Cerebrovasc Dis* 2004;17(suppl 5): 94.
43. Alvarez-Sabín J, Chacón P, Molina CA, Arenillas JF, Ribó M, Fernández-Cadenas I, **Rosell A**, Penalba A, Pujadas F, Montaner J. Triflusal is superior to aspirin suppressing the inflammatory response that follows ischemic stroke. *Cerebrovasc Dis* 2004;17(suppl 5):109.
44. Krupinski J, Miguel M, Catena E, Rosell A, Montaner J, Alvarez-Sabín J, Cairols M, Badimón L, Rubio F. Matrix metalloproteinases in patients with advanced carotid atherosclerosis. *Cerebrovasc Dis* 2004;17(suppl 5): 94.
45. **Rosell A**, Montaner J, Molina CA, Arenillas CA, Ribó M, Fernández-Cadenas I, Penalba A, Quintana M, Monasterio J, Alvarez-Sabín J. Hypoperfusion after ischemic stroke increases matrix metalloproteinases and angiogenic factors related to neurological outcome at short and long term. *Neurología* 2004;19(9):510.
46. Fernández-Cadenas I, Montaner J, Andreu AL, Molina C, Arenillas J, Ribo M, **Rosell A**, Penalba A, Monasterio J, Quintana M, Alvarez-Sabín J. ACE gene polymorphisms influence t-PA-induced brain vessel reopening following ischemic stroke. *Neurología* 2004;19(9):515.
47. **Rosell A**, Montaner J, Molina CA, Arenillas JF, Ribó M, Fernández-Cadenas I, Penalba A, Monasterio J, Alvarez-Sabín J. Angiogenesis in Human Cerebral Ischemia: the angiogenic balance (Endostatin/VEGF) during the hyperacute phase after ischemic stroke is related to neurological outcome at short and long term. *Neurología* 2003;18:528.
48. Fernández-Cadenas I, Montaner J, Andreu A, Molina C, Arenillas J, Huertas R, **Rosell A**, Penalba A, Quintana M, Alvarez-Sabín J. Geno-t-PA: safety profile of tissue plasminogen activator treatment among

stroke patients carrying a common polymorphism (C-1562T) in the promoter region of the matrix metalloproteinase-9 gene. *Neurología* 2003;18:488.

49. Miguel M, Krupinski J, Montaner J, Catena E, Monasterio J, **Rosell A**, Rubio F, Cairols M, Alvarez-Sabín J, Badimón L. Matrix Metalloproteinases (MMPs), ζ inflammation and atherosclerosis or cerebral ischemic lesion?. *Neurología* 2003;18:529.

EXTERNAL REVIEWER

Stroke (a journal of the American Heart Association)

Journal of Neuroscience Research

PARTICIPATION IN TEACHING ACTIVITIES

- Studies on Matrix Metalloproteinases after Stroke. IV Applied neurovascular research course. Hospital Vall d'Hebron. Course from Universitat Autònoma de Barcelona. March 2006.
- Human Cerebral Ischemia: Studies in human brain parenchyma. III Applied neurovascular research course. Hospital Vall d'Hebron. Course from Universitat Autònoma de Barcelona. March 2005.
- Angiogenesis Modulation. Transient Cerebral Ischemia Course. Course from the Universitat Autònoma de Barcelona. March, 2005.
- Laboratory techniques on angiogenesis. II Applied neurovascular research course. Hospital Vall d'Hebron. Course from Universitat Autònoma de Barcelona. March 2004.
- Angiogenesis Modulation. Transient Cerebral Ischemia Course. Course from Universitat Autònoma de Barcelona. March, 2004.
- Angiogenesis Modulation. Transient Cerebral Ischemia Course. Course from Universitat Autònoma de Barcelona. March, 2003.

PARTICIPATION IN RESEARCH SUPPORT GRANTS

NIH GRANT: 1P01NS055104-01A16059: Matrix and Trophic coupling in the neurovascular Unit, P:I: Dr.

Eng H. Lo.

FIS 06/0471: “Influence of Endothelial Progenitor Cells (EPCs) on spatial and temporal modulation of Angiogenesis and Vasculogenesis following human ischemic stroke”. P.I: Dr. José Álvarez-Sabín. Participating as a postdoctoral researcher.

FIS 05/322: “Brain Ischemia Biomarkers Discovery through Gene Expression and Proteomics of Distinct Cell Populations obtained with Laser-Capture-Microdissection from Core and Penumbra following Human Stroke”. P.I: Dr. Joan Montaner. Participating as a post-doctoral researcher.

FIS 02/0773 “Influence of Matrix Metalloproteinases in Hemorrhagic Transformations after thrombolytic treatment in ischemic stroke”. Laboratorio de Investigación Neurovascular. P.I: Dr. Joan Montaner. Participating as a pre-doctoral student.

MEMBERSHIPS

Spanish Society of Neurosciences (SENC)

Federation of Neurosciences (FENS)

CLINICAL TRIALS ON CEREBROVASCULAR PATHOLOGY (Participation)

MISTIC: “Inflammation Biomarkers after Simvastatin and Triflusal in cerebral ischemia” (Multicentric clinical trial, randomized and double blinded to compare simvastatina’s effect associated to aspirin or triflusal, on different inflammation biomarkers in the hyperacute phase of ischemic stroke and their correlation with clinical and radiological data).Hospital Vall d’Hebrón, Barcelona. Spain. 2004.