

## Molecular Pathology and Therapeutic Of Ischaemic and Atherothrombotic Diseases

### Group leader

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### Researchers

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Suades Soler, Rosa (CIBER)

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### Research Technicians

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Morato Simo, Silvia (IR)

Pescador Romero, Monica (IR)

Pimentel Mayordomo, Noelia (IR)

Ramos Regalado, Lisaidy (IR)



### DESCRIPTION

The Group led by Lina Badimon has proven expertise in cardiovascular research, with molecular/genetics to translational and clinical approaches, and focus on atherosclerosis/ thrombosis, ischemic heart disease, aging, and the axis heart-brain. The investigators in the group have positions of trust in International and National Scientific Societies and Networks of Excellence; they are international key opinion leaders; they have a powerful dissemination capacity in academic and social circuits; and, they are consultants and reviewers for National and International Funding Agencies.

### MAIN LINES OF RESEARCH

- Search of novel therapies against atherothrombosis and ischemic heart disease: From nutritional interventions to -omics and precision medicine. IP: Lina Badimon.
- Advanced therapies to promote tissue microvascular perfusion in ischemic diseases. IP: Lina Badimon.
- Extracellular microvesicles as vehicles of crosstalk messages in health and disease. IP: L. Badimon.
- Teràpia cel·lular: inducció dels processos angiogènics en les malalties cardiovasculars. IP: Gemma Arderiu.
- Pathophysiological role of LRP6 in chronic diseases. IP: Maria Borrell.
- Role of lipids and inflammation in atherosclerosis and ischemic heart disease. IP: Maria Borrell.
- Cardioprotection and adverse left ventricular remodeling in ischemic heart disease. IP: Gemma Vilahur.



## 05.1.1 Cardiovascular Diseases Area

- Role of HDL and triglycerides in cardiac ischemic heart disease. IP: Gemma Vilahur.

## ACTIVE GRANTS

- Arderiu Marques, Gemma. Reprogramación directa de las ASCs a células endoteliales mediante factores de transcripción para inducir la regeneración vascular en la enfermedad arterial periférica. PI20/01517. Instituto de Salud Carlos III (ISCIII). Duration: 2021-2023. 147.620,00 €.
- Badimon Maestro, Lina. Medicina de Precisión en Hipercolesterolemia Familiar y enfermedad cardiovascular prematura mediante la integración de tecnologías ómicas y de imagen (MedPreHF). PMP22/00108. Instituto de Salud Carlos III (ISCIII). Duration: 2023-2025. 1.469.930,00 €.
- Badimon Maestro, Lina. Prevención del deterioro cognitivo de origen vascular (VCI) mediante la activación del tráfico de colesterol y la reducción de la oxidación celular. AC20/00054. Instituto de Salud Carlos III (ISCIII). Duration: 2021-2023. 174.978,10 €.
- Badimon Maestro, Lina. Nuevas terapias avanzadas para mejorar la disfunción microvascular y regenerar tejido isquémico. PID2019-107160RB-I00. Ministerio de Ciencia e Innovación (MICINN). Duration: 2020-2024. 484.000,00 €.
- Badimon Maestro, Lina. RICORS TERAV. RD21/0017/0013. Instituto de Salud Carlos III (ISCIII). Duration: 2022-2024. 90.000,90 €.
- Badimon Maestro, Lina. TRANSBIOLINE: Translational Safety Biomarker Pipeline (TransBioLine): Enabling development and implementation of novel safety biomarkers in clinical trials and diagnosis of disease. TRANSBIOLINE 821283. H2020-JTI-IMI2-2017-13-two-stage. Unión Europea. Duration: 2019-2024. 182.600,00 €.
- Badimon Maestro, Lina. COVIRNA: Medical technologies, digital tools and artificial intelligence analytics to improve surveillance and care at high technology readlines. COVIRNA 101016072. H2020-SC1-PHE-CORONAVIRUS-2020-2-CNECT. Unión Europea. Duration: 2020-2023. 273.943,00 €.
- Badimon Maestro, Lina. Network of excellence for the development of advanced therapies from the treatment of myocardial infarctions based on regenerative medicine amb 3d printing. CARDIO-PATCH SOE4/P1/E1063. Unión Europea. Duration: 2020-2023. 123.748,76 €.
- Badimon Maestro, Lina. CARDIATEAM: Cardiomyopathy in type 2 diabetes mellitus. CARDIATEAM AMD-821508-11. H2020-JTI-IMI2-2017-13-two-stage. Unión Europea. Duration: 2019-2026. 50.000,00 €.
- Badimon Maestro, Lina. PROTAIS: Protection of heart and brain against ischemia. GINJOL 2022-11-012. iCERCA. Duration: 2022-2023. 10.000,00 €.
- Badimon Maestro, Lina. Patologia Molecular i Terapeutica de les Malalties Aterotrombòtiques. INV-1 00048. Agència de Gestió d'Ajuts Universitaris i de Recerca (AGAUR). Duration: 2022-2024. 66.217,84 €.
- Badimon Maestro, Lina. Antiplatelet effects of APT102. Non-competitive. ASTRAZENECA. Duration: 2018-2023. 500.000,00 €.
- Badimon Maestro, Lina. Efectos del probiótico "AB-Life" sobre la cantidad y perfil de ácidos biliares, y el perfil lipídico y metabólico en sujetos sanos con sobrepeso moderado. Non-competitive. AB-BIOTICS. Duration: 2020-2023. 277.052,00 €.
- Borrell Pages, Maria. Progresión de la aterosclerosis: nuevas funciones del PCSK9 y los LRP. PI20/01282. Instituto de Salud Carlos III (ISCIII). Duration: 2021-2023. 135.520,00 €.
- Borrell Pages, Maria. Rol del PCSK9 en la enfermedad vascular: impacto del PCSK9 de la pared vascular. SEC 2019. Sociedad Española de Cardiología (SEC). Duration: 2019-2023. 15.000,00 €.
- Vilahur García, Gemma. Mejora de la función cardíaca mediante el conocimiento del eje metabólico triglicéridos/HDL: Impacto en las células de la médula ósea y el corazón. PID2021-128891OB-I00. Ministerio de Ciencia e Innovación (MICINN). Duration: 2022-2025. 302.500,00 €.
- Vilahur García, Gemma. Noves estratègies de protecció de l'eix cor-cervell després d'una parada cardíaca. CCR 2021. Fundació Acadèmia de Ciències Mèdiques i de la Salut de Catalunya i Balears. Duration: 2021-2024. 6.000,00 €.



### 05.1.1 Cardiovascular Diseases Area

- Vilahur García, Gemma. Avances en el diagnóstico y pronóstico de Aterosclerosis en pacientes diabéticos. PLEC2021-007664. Ministerio de Ciencia e Innovación (MICINN). Duration: 2021-2024. 271.697,00 €.
- Vilahur García, Gemma. Nueva aproximación terapéutica para prevenir el desarrollo de cardiomiopatía diabética a través de la inhibición funcional de la HMGCoA-reductasa y la activación de la vía de señalización de la AMPK. SEC 2020. SEC/FEC-INV-TRL 20/01.Sociedad Española de Cardiología (SEC). Duration: 2020-2024. 15.000,00 €.
- Vilahur García, Gemma. Nanotechnology-based therapeutics to protect the infarcted heart: deciphering the role of innovative HDL bioengineered nanoconstructs. MARATO 202337-30. Fundacio La Marato de TV3. Duration: 2024-2027. 187.248,75 €.

### GRANTS AWARDED

- Arderiu Marques, Gemma. Nueva estrategia terapéutica mediante vesículas extracelulares derivadas de células madre derivadas de tejido adiposo como medicina regenerativa en enfermedades vasculares periféricas. PI23/01136. Instituto de Salud Carlos III. Duration: 2024-2026. 152.500,00 €.
- Arderiu Marques, Gemma. Repairing early endothelial cell damage to promote cardiovascular health: interplay between endothelial cells and monocytes as a primary strategy in ischemic diseases. MARATO 202303-30. Fundacio La Marato de TV3. Duration: 2024-2027. 149.785,00 €.
- Badimon Maestro, Lina. Patologia Molecular i Terapèutica de les Malalties Isquèmiques i Aterotrombòtiques. 2021 SGR 01006. Agència de Gestió d'Ajuts Universitaris i de Recerca (AGAUR). Duration: 2022-2024. 60.000 €.
- Borrell Pages, Maria. LDLR family and PCSK9's role in cerebral lipid homeostasis in ischemic stroke. PI23/00589. Instituto de Salud Carlos III. Duration: 2024-2026. 140.000,00 €.
- Borrell Pages, Maria. Cerebral lipid homeostasis in ischemic stroke: role of lipoprotein receptors and pharmacological interventions. MARATO 202304-10. Fundacio La Marato de TV3. Duration: 2024-2027. 197.937,50 €.
- Vilahur García, Gemma. Targeted nanomedicine to reverse fibrosis in ischemic cardiomyopathies. PCI2023-143431. Ministerio de Ciencia e Innovación (MICINN). Duration: 2023-2026. 157.300,00 €.
- Gallinat O'Callaghan, Alex. Molecular basis of ischemic post-conditioning: DJ-1 in cardioprotection. 30/01/2023. Universitat Autònoma de Barcelona. Supervisors: Badimon Maestro, Lina; Blanco Vaca, Francisco. <http://hdl.handle.net/10803/688588>.
- Radiké, Monika. High resolution cardiovascular magnetic resonance as a tool for evaluating the efficacy of P2Y12 receptor antagonists to preserve cardiac microcirculation and limit adverse left ventricular remodelling post-myocardial infarction. 28/04/2023. Universitat Autònoma de Barcelona. Supervisors: Hidalgo Pérez, José Alberto; Vilahur García, Gemma; Badimon Maestro, Lina; Cinca Cusculola, Juan María. <http://hdl.handle.net/10803/690535>.
- Schoch, Leonie. Nuevas estrategias para restaurar la protección de las HDLs. 09/03/2023. Universitat de Barcelona. Supervisors: Vilahur García, Gemma; Badimon Maestro, Lina.
- Sutelman, Pablo. Nuevas estrategias de condicionamiento miocárdico: cardioprotección por nutraceuticos en cardiopatía isquèmica. 15/09/2023. Universitat de Barcelona. Supervisors: Vilahur García, Gemma; Badimon Maestro, Lina.
- Vilella Figuerola, Alba. Circulating cell-derived extracellular vesicles and epigenetic small non-coding ribonucleic acids in chronic heart failure. 28/03/2023. Universitat Autònoma de Barcelona. Supervisors: Badimon Maestro, Lina; Padró Capmany, Teresa; Blanco Vaca, Francisco. <http://hdl.handle.net/10803/689764>.
- Andreotti F, Geisler T, Collet JP, Gigante B, Gorog DA, Halvorsen S, Lip GYH, Morais J, Navarese EP, Patrono C, Rocca B, Rubboli A, Sibbing D, Storey RF, Verheugt F, Vilahur G. Acute, periprocedural and longterm antithrombotic therapy in older adults 2022 Update by the ESC Working Group

### DOCTORAL THESES DEFENDED

- Gallinat O'Callaghan, Alex. Molecular basis of ischemic post-conditioning: DJ-1 in cardioprotection. 30/01/2023. Universitat Autònoma de Barcelona. Supervisors: Badimon Maestro, Lina; Blanco Vaca, Francisco. <http://hdl.handle.net/10803/688588>.
- Radiké, Monika. High resolution cardiovascular magnetic resonance as a tool for evaluating the efficacy of P2Y12 receptor antagonists to preserve cardiac microcirculation and limit adverse left ventricular remodelling post-myocardial infarction. 28/04/2023. Universitat Autònoma de Barcelona. Supervisors: Hidalgo Pérez, José Alberto; Vilahur García, Gemma; Badimon Maestro, Lina; Cinca Cusculola, Juan María. <http://hdl.handle.net/10803/690535>.
- Schoch, Leonie. Nuevas estrategias para restaurar la protección de las HDLs. 09/03/2023. Universitat de Barcelona. Supervisors: Vilahur García, Gemma; Badimon Maestro, Lina.
- Sutelman, Pablo. Nuevas estrategias de condicionamiento miocárdico: cardioprotección por nutraceuticos en cardiopatía isquèmica. 15/09/2023. Universitat de Barcelona. Supervisors: Vilahur García, Gemma; Badimon Maestro, Lina.
- Vilella Figuerola, Alba. Circulating cell-derived extracellular vesicles and epigenetic small non-coding ribonucleic acids in chronic heart failure. 28/03/2023. Universitat Autònoma de Barcelona. Supervisors: Badimon Maestro, Lina; Padró Capmany, Teresa; Blanco Vaca, Francisco. <http://hdl.handle.net/10803/689764>.

### SCIENTIFIC PRODUCTION

- Andreotti F, Geisler T, Collet JP, Gigante B, Gorog DA, Halvorsen S, Lip GYH, Morais J, Navarese EP, Patrono C, Rocca B, Rubboli A, Sibbing D, Storey RF, Verheugt F, Vilahur G. Acute, periprocedural and longterm antithrombotic therapy in older adults 2022 Update by the ESC Working Group



## 05.1.1 Cardiovascular Diseases Area

- on Thrombosis. EUROPEAN HEART JOURNAL. 2023; 44(4)DOI:10.1093/eurheartj/ehac515. PMID:36477po865. IF:39,300 (Q1/1D). Document type: Review.
- Arderiu G, Civit A, Badimon L. Adipose-Derived Stem Cells to Treat Ischemic Diseases: The Case of Peripheral Artery Disease. INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES. 2023; 24(23):16752. DOI:10.3390/ijms242316752. PMID:38069074. IF:5,600 (Q1/3D). Document type: Review.
  - Arderiu G, Mendieta G, Gallinat A, Lambert C, Díez A, Ballesta C, Badimon L. Type 2 Diabetes in Obesity: A Systems Biology Study on Serum and Adipose Tissue Proteomic Profiles. INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES. 2023; 24(1):827. DOI:10.3390/ijms24010827. PMID:36614270. IF:5,600 (Q1/3D). Document type: Article.
  - Badimon L, Arderiu G. Atherosclerotic Plaque VASA Vasorum in Diabetic Macroangiopathy: WHEN IS Important, but also HOW IS Needed. THROMBOSIS AND HAEMOSTASIS. 2023; 123(10) DOI:10.1055/a-2116-7261. PMID:37353212. IF:6,700 (Q1/2D). Document type: Editorial Material.
  - Badimon L, Mendieta G, Vilahur G. Statins revisited: therapeutic applications beyond lipid lowering?. EUROPEAN HEART JOURNAL. 2023; 44(25)DOI:10.1093/eurheartj/ehad324. PMID:37316965. IF:39,300 (Q1/1D). Document type: Editorial Material.
  - Badimon L, Vilahur G, Padro T, Mendieta G. Cardiovascular residual risk: etiology, lipids, and inflammation. Revista Española De Cardiología Suplementos. 2023; 23DOI:10.1016/S1131-3587(23)00008-0. Document type: Article.
  - Badimon L, Padro T, Vilahur G. Chapter 27: Moving from reactive to preventive medicine. Aging. 2023; 663-681. DOI: 10.1016/B978-0-12-823761-8.00003-3. Document type: Book Chapter.
  - Badimon L, Vilahur G. Chapter 1: Arterial thrombosis: pathophysiological background. The ESC Textbook of Thrombosis. The European Society of Cardiology Series. Oxford Academic. 2023; C1-C1P114. DOI:10.1093/med/9780192869227.003.0001. Document type: Book Chapter.
  - Benincasa G, Suades R, Padrò T, Badimon L, Napoli C. Bioinformatic platforms for clinical stratification of natural history of atherosclerotic cardiovascular diseases. European Heart Journal-Cardiovascular Pharmacotherapy. 2023; 9(8) DOI:10.1093/ehjcvp/pvad059. PMID:37562936. IF:7,100 (Q1/1D). Document type: Article.
  - Bergami M, Manfrini O, Nava S, Caramori G, Yoon J, Badimon L, Cenko E, David A, Demiri I, Dorobantu M, Fabin N, Gheorghe O, Jankovic R, Kedev S, Ladjevic N, Lasica R, Loncar G, Mancuso G, Mendieta G, Milicic D, Mjehovic P, Pasalic M, Petrovic M, Poposka L, Scarpone M, Stefanovic M, van der Schaar M, Vasiljevic Z, Vavlukis M, Pittao MLV, Vukomanovic V, Zdravkovic M, Bugiardini R. Relationship Between Azithromycin and Cardiovascular Outcomes in Unvaccinated Patients With COVID-19 and Preexisting Cardiovascular Disease. Journal of the American Heart Association. 2023; 12(14):e028939. DOI:10.1161/JAHA.122.028939. PMID:37449568. IF:5,400 (Q2/3D). Document type: Article.
  - Bonfrate L, Di A, Khalil M, Farella I, Chirico R, Vilahur G, Portincasa P. Gender-dependent impact of COVID-19 lockdown on metabolic and psychological aspects. Internal and Emergency Medicine. 2023; 18(2)DOI:10.1007/s11739-022-03173-9. PMID:36703077. IF:4,600 (Q2/3D). Document type: Article.
  - Borrell M, Luquero A, Vilahur G, Padró T, Badimon L. Canonical Wnt pathway and the LDL receptor superfamily in neuronal cholesterol homeostasis and function. CARDIOVASCULAR RESEARCH. 2023; DOI:10.1093/cvr/cvad159. PMID:37882606. IF:10,800 (Q1/1D). Document type: Article.
  - Bugiardini R, Nava S, Caramori G, Yoon J, Badimon L, Bergami M, Cenko E, David A, Demiri I, Dorobantu M, Fronea O, Jankovic R, Kedev S, Ladjevic N, Lasica R, Loncar G, Mancuso G, Mendieta G, Milicic D, Mjehovic P, Pasalic M, Petrovic M, Poposka L, Scarpone M, Stefanovic M, van der Schaar M, Vasiljevic Z, Vavlukis M, Pittao MLV, Vukomanovic V, Zdravkovic M, Manfrini O. Sex differences and disparities in cardiovascular outcomes of COVID-19. CARDIOVASCULAR RESEARCH. 2023; 119(5)DOI:10.1093/cvr/cvad011. PMID:36651866. IF:10,800 (Q1/1D). Document type: Article.



## 05.1.1 Cardiovascular Diseases Area

- Charalampous P, Haagsma JA, Jakobsen LS, Gorasso V, Noguer I, Padron A, Sarmiento R, Santos JV, McDonald SA, Plass D, Wyper GMA, Assunção R, Von Der Lippe E, Ádám B, Alkerwi A, Arabloo J, Baltazar AL, Bikbov B, Borrell M, Brus I, Burazeri G, Chaintoutis SC, Chen J, Chkhaberidze N, Cilovic S, Corso B, Cuschieri S, Di C, Dopelt K, Economou M, Emeto TI, Fantke P, Fischer F, Freitas A, García JM, Gazzelloni F, Gissler M, Gkitakou A, Gulmez H, Gunes S, Haller S, Haneef R, Hincapié CA, Hynds P, Idavain J, Ilic M, Ilic I, Isola G, Kabir Z, Kamusheva M, Kolkhir P, Konar NM, Kostoulas P, Kulimbet M, La Vecchia C, Lauriola P, Levi M, Majer M, Mechili EA, Monasta L, Mondello S, Muñoz J, Nena E, Ng ESW, Nguewa P, Niranjana V, Nola IA, O'caomh R, Obradovic M, Pallari E, Peyroteo M, Pinheiro V, Pranjic N, Reina M, Riva S, Santoso CMA, Santric M, Schmitt T, Speybroeck N, Sprügel M, Steiropoulos P, Stevanovic A, Thygesen LC, Tozija F, Unim B, Bektas H, Varga O, Vasic M, Vieira RJ, Yigit V, Devleeschauwer B, Pires SM. Burden of infectious disease studies in Europe and the United Kingdom: a review of methodological design choices. *EPIDEMIOLOGY AND INFECTION*. 2023; 151:e19. DOI:10.1017/S0950268823000031. PMID:36621004. IF:4,200 (Q2/4D). Document type: Review.
- Cordero A, Fernández R, Badimon L, Santos CG, Castellano JM, Fácila L, Rodríguez M, Bonanad C, Vilahur G, Escribano D, Badimon JJ, González JR. The efficacy of intensive lipid-lowering therapies on the reduction of LDLc and of major cardiovascular events. *Journal of Clinical Lipidology*. 2023; 17(5)DOI:10.1016/j.jacl.2023.08.006. PMID:37775463. IF:4,400 (Q2/3D). Document type: Article.
- Cordero A, Munoz N, Padro T, Vilahur G, Bertomeu V, Escribano D, Flores E, Zuazola P, Badimon L. HDL Function and Size in Patients with On-Target LDL Plasma Levels and a First-Onset ACS. *INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES*. 2023; 24(6):5391. DOI:10.3390/ijms24065391. PMID:36982465. IF:5,600 (Q1/3D). Document type: Article.
- Davidson SM, Boulanger CM, Aikawa E, Badimon L, Barile L, Binder CJ, Brisson A, Buzas E, Emanueli C, Jansen F, Katsur M, Lacroix R, Lim SK, Mackman N, Mayr M, Menasché P, Nieuwland R, Sahoo S, Takov K, Thum T, Vader P, Wauben MHM, Witwer K, Sluijter JPG. Methods for the identification and characterization of extracellular vesicles in cardiovascular studies: from exosomes to microvesicles. *CARDIOVASCULAR RESEARCH*. 2023; 119(1)DOI:10.1093/cvr/cvac031. PMID:35325061. IF:10,800 (Q1/1D). Document type: Review.
- Doehner W, Böhm M, Boriani G, Christersson C, Coats A, Haeusler KG, Jones ID, Lip GYH, Metra M, Ntaios G, Savarese G, Shantsila E, Vilahur G, Rosano G. Interaction of heart failure and stroke: A clinical consensus statement of the ESC Council on Stroke, the Heart Failure Association (HFA) and the ESC Working Group on Thrombosis. *EUROPEAN JOURNAL OF HEART FAILURE*. 2023; 25(12)DOI:10.1002/ejhf.3071. PMID:37905380. IF:18,200 (Q1/1D). Document type: Article.
- Encinas LF, Lluch N, Wu A, Kaski JC, Badimon L, Cubedo J. A Novel ELISA for the Quantification of Serum Levels of 2 Glycosylated Variants of Apolipoprotein J: Biomarkers for Myocardial Ischemia. *Journal Of Applied Laboratory Medicine*. 2023; 8(5)DOI:10.1093/jalm/jfad034. PMID:37473435. Document type: Article.
- Gallinat A, Vilahur G, Padro T, Badimon L. Effects of Antioxidants in Fermented Beverages in Tissue Transcriptomics: Effect of Beer Intake on Myocardial Tissue after Oxidative Injury. *Antioxidants*. 2023; 12(5):1096. DOI:10.3390/antiox12051096. PMID:37237963. IF:7,000 (Q1/1D). Document type: Article.
- García MC, Padro T, Munoz N, Bianchi M, Alvarez L, Badimon L, Corbella E, Pinto X. Dysfunctional antioxidant capacity of high-density lipoprotein in rheumatoid arthritis. *EUROPEAN JOURNAL OF CLINICAL INVESTIGATION*. 2023; 53(8):e13999. DOI:10.1111/eci.13999. PMID:36994808. IF:5,500 (Q1/3D). Document type: Article.
- Gigante B, Levy JH, van E, Bartoloni A, Bochaton ML, Back M, ten H, Christersson C, Ferreiro JL, Geisler T, Lutgens E, Schulman S, Storey RF, Thachil J, Vilahur G, Liaw PC, Rocca B. Management of patients on antithrombotic therapy with severe infections: a joint clinical consensus statement of the ESC Working Group on Thrombosis, the ESC Working Group on Atherosclerosis and Vascular



## 05.1.1 Cardiovascular Diseases Area

- Biology, and the International Society on Thrombosis and Haemostasis. *EUROPEAN HEART JOURNAL*. 2023; 44(32)DOI:10.1093/eurheartj/ehad388. PMID:37439553. IF:39,300 (Q1/1D). Document type: Article.
- Kaski JC, Lluch N, López JL, Gorog DA, Antorrena I, Avanzas P, Herrero P, Sionis A, González JR, Íñiguez A, Cordero A, Ako E, Fernández F, Atienza F, Recio A, Wu A, Crea F, Storey R, Badimon L, Cubedo J. Changes in circulating ApoJ-Glyc levels in patients with suspected acute coronary syndrome: The EDICA trial. *INTERNATIONAL JOURNAL OF CARDIOLOGY*. 2023; 391:131291. DOI:10.1016/j.ijcard.2023.131291. PMID:37619880. IF:3,500 (Q2/5D). Document type: Article.
  - Lezoualc'h F, Badimon L, Baker H, Bernard M, Czibik G, De Boer RA, D'Humieres T, Kergoat M, Kowala M, Rieusset J, Vilahur G, Detrait M, Watson C, Derumeaux GA. Diabetic cardiomyopathy: the need for adjusting experimental models to meet clinical reality. *CARDIOVASCULAR RESEARCH*. 2023; 119(5)DOI:10.1093/cvr/cvac152. PMID:36082907. IF:10,800 (Q1/1D). Document type: Review.
  - López A, Padro T, Villaplana VD, Muñoz N, Pérez A, Vilahur G, Badimon L. Vascular and Platelet Effects of Tomato Soffritto Intake in Overweight and Obese Subjects. *Nutrients*. 2023; 15(24):5084. DOI:10.3390/nu15245084. PMID:38140343. IF:5,900 (Q1/2D). Document type: Article.
  - Padro T, López A, Pérez A, Vilahur G, Badimon L. Dietary ?3 Fatty Acids and Phytosterols in the Modulation of the HDL Lipidome: A Longitudinal Crossover Clinical Study. *Nutrients*. 2023; 15(16):3637. DOI:10.3390/nu15163637. PMID:37630826. IF:5,900 (Q1/2D). Document type: Article.
  - Radike M, Ben-Aicha S, Gutiérrez M, Hidalgo A, Badimón L, Vilahur G. Comparison of two cardiac magnetic resonance imaging post processing software tools in a pig model of myocardial infarction. *Rev Esp Cardiol (Engl Ed)*. 2023; 76(2):123-126. DOI: 10.1016/j.rec.2022.06.009. PMID: 35809893. IF:5,900 (Q1/3D). Document type: Editorial Material.
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