GUÍA DE AYUDA PARA LA CUMPLIMENTACIÓN DE LA DOCUMENTACIÓN DE LA SOLICITUD DE INCORPORACIÓN DE GRUPOS A CIBER

Ante las reiteradas consultas sobre la información a incorporar en los formularios requeridos para participar en la convocatoria de incorporación de grupos a CIBER, se ha considerado oportuno dar respuesta a las mismas a través de las siguientes aclaraciones:

1) CVN

Solo es necesario adjuntar el CVN del investigador principal del grupo. El período evaluable son los últimos 5 años, que es el mismo período que incluye la definición de grupo de investigación y el que se solicita en el historial científico-técnico del grupo de investigación. Al tratarse de una evaluación internacional, la documentación exigida será en lengua inglesa, por lo que tendrá que utilizar la versión del CVN en dicho idioma.

2) Historial científico-técnico del grupo de investigación

Listado de integrantes del grupo y su estructura, relación de publicaciones, proyectos y patentes de los últimos 5 años.

CIBER code: se corresponde con el número de expediente que le facilite la aplicación una vez inicie la solicitud.

Topic: se corresponde con el descriptor al que aplica, se adjunta un anexo con todos los topics en inglés.

Group name: algunos grupos tienen una denominación específica que los identifica en sus instituciones (Institutos de investigación sanitaria, hospitales, etc.), así como en publicaciones y otras referencias. Si fuera el caso indíquelo, en caso contrario no es necesaria su cumplimentación.

Research team members: En el apartado author name señale la firma en publicaciones así como las variedades de firmas existentes.

Publications: Por favor agrupe las publicaciones en orden alfabético por título de la revista, esto facilita a los evaluadores la revisión de las mismas.

Tanto en el CVN como en el historial científico-técnico del grupo, es conveniente que los títulos de los proyectos referenciados estén traducidos al inglés, con el fin de que los evaluadores puedan considerar en su caso su alineación con el descriptor del CIBER al que se aplica. Destacar en negrita el nombre de los miembros del equipo que figuran en publicaciones, proyectos y patentes.

3) Memoria de actuaciones del grupo a realizar en su incorporación al área temática del Consorcio CIBER, referida a alguno de los descriptores y subdescriptores relacionados en el Anexo.

Requested Budget: Indique el presupuesto solicitado para uno o dos años, según área temática. La subvención de todos los grupos que se incorporen en esta actuación se libra al CIBER que la repercutirá en los grupos en función de su participación en los programas científicos que se estructuren en el seno del CIBER.

Description of the Research Activity Programme:
Indicate the potential medical impact of the programme. Highlight healthcare aspects and the links with the scientific policy of the CIBER consortium.

En este item de la memoria de actuaciones, se espera que proponga un plan de investigación relacionado con el subdescriptor al que aplica, dentro del contexto general del descriptor y/o del área temática, destacando el impacto potencial en salud sobre la población a la que se orienta. Destaque la complementariedad de la trayectoria y líneas de investigación del grupo con el subdescriptor, descriptor y/o área temática seleccionadas, así como los aspectos de innovación, transferencia de conocimiento, novedad, viabilidad y oportunidad de la propuesta.
En el caso de los grupos que aplican a un área temática ya constituida, destaque la alineación de su investigación en salud con la política científica del CIBER.

Complementarity with the ongoing research lines and thematic areas developed by the CIBER Consortium:
Applicants to Call for join should emphasize the group's scientific contribution related to the topic, and identify collaborations with CIBER's groups.
Applicants to Call for Constitute should emphasize the group's scientific contribution related to the topic, and identify the strengths of the proposal to increase the structure of the CIBER consortium.

En el caso de los grupos que aplican a un área temática ya constituida, destaque las contribuciones que ha realizado el grupo tanto al subdescriptor y área temática, e indique si tiene colaboraciones previas y de qué tipo con grupos CIBER.
Cuando se trate de grupos que apliquen a un área de nueva constitución, destaque las contribuciones que ha realizado el grupo tanto al subdescriptor como descriptor y/o área temática, e indique las colaboraciones previas mantenidas con otros grupos de investigación tanto nacionales como internacionales y de qué tipo en la actividad propuesta.

Added value that would be obtained with the integration of the research group in the CIBER Consortium:

Valor añadido que supondría para el área temática propuesta y para el propio grupo, la integración en el Consorcio y el poder trabajar junto con otros grupos con los que comparten intereses comunes.

Integration plan:
Describe the expected synergies.

Si aplica a un área temática ya constituida, indique su plan de integración en la misma, afinidad y sinergias esperadas con otros grupos del CIBER.
En el caso de aplicar a nuevas áreas, argumente la capacidad del grupo para generar sinergias con otros grupos de investigación y las que espera establecer en el seno del CIBER.

Annexes::

Puede incluir en estos apartados cualquier otro elemento que considere que pueda facilitarle al evaluador entender la importancia de su aportación científica al área temática a la que aplica y la calidad de su grupo.

4) Documento normalizado que acredite la participación de los miembros del equipo en publicaciones y/o patentes, así como en proyectos o programas de investigación en los términos establecidos en el artículo 79.1.

Como conoce, la convocatoria exige que los miembros del grupo de investigación se agrupen en torno a un investigador principal, para lo cual se exige que los colaboradores tengan dos publicaciones o patentes y un proyecto de investigación obtenido en concurrencia competitiva con el investigador principal.
Aclarar que en el caso de las publicaciones se aceptan todas las que puedan ser verificadas (PMID, DOI, ISSN, etc.)
En el caso de patentes todas las que puedan ser verificadas por el número de solicitud y número de concesión.
En el caso de los proyectos de investigación, todos aquellos obtenidos en concurrencia competitiva y que puedan ser verificados por número de expediente y agencia financiadora, indicando el papel en el mismo tanto del investigador principal como del colaborador. A estos efectos, todos los grupos que hayan participado en un programa de los que se componen las RETICS, se considera que han participado en el mismo proyecto de investigación.

En todos los casos por favor destacar en negrita el nombre del investigador principal y del colaborador que se trate.

CIBER Consortium's thematic areas, topics and subtopics.

1. *Thematic area of Bioengineering, Biomaterials and Nanomedicine.*

1.1. Nanomedicine Programme: Clinical and pre-clinical Nanotoxicology, study of immune and inflammation response to nanoparticles, nanoparticles biodistribution/ pharmacokinetics/ pharmacodynamics including the use of PET imaging techniques.

1.2. Bioengineering Programme: Information and communications technology (ICT) applied to Healthcare. Personalized medicine methods and data analysis in prevention, diagnosis and monitoring. Applications to chronic disease, brain disorders and active and healthy aging.

2. *Thematic area of Epidemiology and Public Health.*

2.1. Health Services Assessment Programme: Empirical research on disease burden, healthcare costs and outcomes (health economics).

3. *Thematic area of Frailty and Aging.*

3.1. Healthy aging biological mechanisms oriented to the maintenance of functional autonomy and mechanisms leading to frailty and disability.

3.1.1. Development of frailty animal models.

3.1.2. Study of extreme longevity human models (nonagenarian, centenarian and supercentenarian) as a model of satisfactory aging.

3.1.3. Basic frailty mechanisms: cell signalling pathways in musculoskeletal and cardiovascular systems.

3.1.4. Basic frailty mechanisms: mitochondrial dynamics in musculoskeletal system.

3.1.5. Muscle quality (sarcopenia and alterations in satellite cells) and relationship with the patient's functional capacity. The role of oxidative stress and autophagy.

3.2. Functional trajectories and modulating factors. Interaction chronic disease-aging-functional deterioration.

3.2.1. Analysis of health and social costs associated to frailty and functional deterioration. Analysis of the economic impact of chronic disease functional repercussions in elderly.

3.2.2. Population and clinical cohort studies on frailty and functional deterioration. Functional trajectories: biological, clinical and healthcare modulating factors.

3.2.3. Role of chronic disease (diabetes, cognitive deterioration, cardiovascular disease, chronic airflow obstruction, osteoporosis, degenerative arthropathy) in the origin and evolution of frailty and functional deterioration.

3.2.4. Prognostic and pathogenic role of frailty in chronic disease, falls, cancer and major surgery. Age-dependent differences in elderly.

3.2.5. Identification of frailty's risk, diagnosis and prognosis biomarkers.

3.2.6. Detection of nutrition biomarkers associated to alimentary patterns related to frailty. Study of nutrition metabolite biomarkers, metabotypes and fenotypes of frailty.

3.2.7. Physical activity, sedentary lifestyle, and body composition in the development of frailty and functional deterioration. Gait analysis parameters for prediction of frailty and falls.

3.2.8. Assessment of tools for the diagnosis of frailty in healthcare delivery centres.

3.2.9. Frailty and iatrogenesis: role of polypharmacy, inadequate hospitalization and other healthcare procedures in the development of frailty and its evolution to disability.

3.3. Prevention and therapeutic interventions in frailty and functional deterioration.

3.3.1. Care models: Inpatient and outpatient healthcare.

3.3.2. Care models: Comprehensive care. Coordination of continuing care.

3.3.3. Use of technologies in the detection, approach and monitoring of frail elderly: Internet of things, natural interaction-based technologies, wearable and implantable systems, robotics, Apps.

3.3.4. Advanced data analysis and management systems (Big Data solutions) in the identification and assessment of frailty risk profiles in populations, their evolution to disability and their treatment.

3.3.5. Economic assessment of intervention programmes for the prevention and/or treatment of frailty and functional deterioration.

3.3.6. Physical activity programmes based on strength training for the prevention and treatment of frailty and physical restraint.

3.3.7. Nutritional biotechnology in the process of frailty and healthy aging. Biomarkers in nutrition, diet and microbiomics.

3.3.8. Role of oxidative stress, autophagy, biogenesis, and modulation of cell signalling in (nutritional, physical) interventions for approaching frailty in human beings.

3.3.9. Design and implementation of Clinical trials in frail patients.

3.3.10. Treatment of chronic disease and comorbidity in frail patients. Therapeutic objectives focused on functional deterioration.

4. *Thematic area of Cardiovascular Diseases*.

4.1. Myocardial alterations and their consequences on the heart's function and rhythm.

4.1.1. Advanced characterization of ventricular substrate remodelling. Effects of regenerative and tissue engineering therapies on clinical and pre-clinical models.

4.1.2. Role of inflammation in myocardial damage and functional imaging characterization.

4.1.3. Systems biology-based innovative strategies for the prevention of cardiac remodelling and microvascular ischemic disease in pre-clinical models of cardiac damage with diastolic dysfunction and comorbidities.

4.1.4. Clinical applicability and assessment of new strategies for reducing myocardial and vascular damage associated to valvular heart disease and diabetes-related microvascular degeneration.

4.1.5. Clinical application of biomarkers in the characterization and stratification of myocardial damage as well as in the assessment of biotherapies targeted to the restauration of ventricular function.

4.1.6. Mechanisms of fibrillation processes, analysis of stretching effects and study of drug monitoring in translational models.

4.1.7. Multimodal analysis of myocardial substrate underlying disorders of rhythm and cardiac function.

4.1.8. Optical mapping and molecular biology of atrial and ventricular fibrillation in animal and human models.

4.1.9. Role of signalling pathways by G-protein coupled receptors in cardiopathies.

4.1.10. Clinical research on prevention and treatment of myocardial damage associated to ischemia and chemotherapy.

4.2. Arterial disease, atherothrombosis and myocardial ischemia.

4.2.1. Translational studies on myocardial ischemia-reperfusion injury.

4.2.2. Protection and tissue characterization of the reperfused myocardium.

4.2.3. Role of carpases and endonucleases in cardiac muscle cells' death, survival and remodelling.

4.2.4. Thrombosis and bleeding risk within the context of coronary syndromes with and without intervention.

4.2.5. Molecular and cellular mechanisms of inflammation and tissue response to hypoxia in atherosclerosis. Role of OxLDL, Th17, microRNA receptors and HIF system.

4.2.6. Inflammatory mechanisms of vascular dysfunction in hypertension and obesity. Role of prostanoids and oxidative stress.

4.2.7. Vascular effects and effects on the interaction between macrophages and matrix metalloproteinase endothelial cells.

4.2.8. Molecular basis of atherogenesis and vascular aging in translational models.

4.2.9. Role of NR4A nuclear receptors and elastogenic proteins (lysyl-oxidase and fibulin-5) in arterial disease and ischemia.

4.2.10. Murine models of syndromic aortic disease.

4.2.11. Role of angiotensin and calcineurin in vascular aneurysmal disease.

4.2.12. Genetic modulators of thrombosis.

4.3. Structural pathology of the heart.

4.3.1. Clinical and pre-clinical studies in heart valve and structural diseases with infectious and non-infectious cause. Development of centralised image analysis tools.

4.3.2. Inter-cell signalling in cardiac development. Implications in heart valve and ventricle structural diseases.

4.3.3. Multimodality imaging techniques for the management of valve and other structural diseases.

4.4. Clinical and translational research in cardiac insufficiency.

4.4.1. Biopathology, prognostic stratification and therapeutic innovations in advanced cardiac insufficiency and pulmonary hypertension.

4.4.2. Genetic, biological and clinical factors in the diagnosis, treatment and evolution of myocardiopathies, cardiac insufficiency and heart transplant.

4.4.3. Translational study of the mechanisms involved in the genesis and progression of cardiac insufficiency by the integration of cellular electrophysiology, bioelectrical impedance analysis and tissue imaging techniques.

4.4.4. Translational models for the study of the metabolic basis of cardiac dysfunction.

4.4.5. Intracellular transport mechanisms and their prognostic and therapeutic contribution in cardiac insufficiency.

4.4.6. Characterization of DNA and RNA in myocardiopathies undergoing heart transplant.

4.5. Epidemiology and cardiovascular prevention. Hypertension and risk factors.

4.5.1. Epidemiology of cardiovascular diseases and risk factors, and cardiovascular risk functions in population primary prevention.

4.5.2. Population genetics and epigenetics of coronary disease, hypertension and related factors.

4.5.3. Prognostic functions in acute coronary syndromes and cardiac insufficiency.

4.5.4. Genetics and epigenetics of stroke and its relationship with arterial hypertension in secondary prevention.

4.5.5. Arterial effect of hypertension, menopause and frailty in aging, in animal in-vitro models and in human arteries.

4.5.6. Pharmacology of the cardiac muscle's ion channels.

4.5.7. Role of mechanosensitive channels in vascular physiopathology.

4.6. Genetic, biochemical and imaging markers in cardiopathies.

4.6.1. Identification, validation and clinical application of cardiac remodelling circulating biomarkers.

4.6.2. Characterization of proteomic markers in cardiac and vascular damage in response to different types of injury.

5. *Thematic Area of Cancer*.

5.1. Analytic, molecular and genetic epidemiology of cancer: research on risk factors related to environment, infections and nutrition.

5.2. Primary prevention and screening of cancer: assessment of efficacy, effectiveness and utilization determinants.

5.3. Identification and validation of GTPases and their enzyme regulators as oncogenic drivers and therapeutic targets through the use of animal models and pre-clinical approaches.

5.4. Identification, validation and development of new therapies based on the inactivation of pro-tumorigenic protein kinases involved in tumour proliferation, survival and metabolism.

5.5. Identification, validation and development of new therapies based on the inactivation of nuclear regulators involved in tumorigenesis and genotoxic responses.

5.6. Hematologic tumours: diagnosis and therapeutic precision innovations and assessment of their usefulness in controlled clinical trials (clinical trials and usual practice).

5.7. Hematologic myeloid tumours: multi-parameter characterization of the tumour cell and development of clinical and pre-clinical therapeutic models.

5.8. Hematologic lymphoid tumours: multi-parameter characterization of the tumour cell and development of clinical and pre-clinical therapeutic models.

5.9. Multiple myeloma: multi-parameter characterization of the tumour cell and development of clinical and pre-clinical therapeutic models.

5.10. Development of pre-clinical models in luminal, HER2-positive and/or triple negative breast cancer.

5.11. Identification of markers of sensitivity and resistance to luminal, HER2-positive and/or triple negative breast cancer therapies.

5.12. Development of new targeted and immune therapies for luminal, HER2-positive and/or triple negative breast tumours.

5.13. Genomic and epigenetic alterations in cancer: pre and post- treatment genomic characterization and dynamic evolution.

5.14. Characterization and therapeutic use of stem cells and organoids in cancer.

5.15. Molecular mechanisms, models of carcinogenesis, biomarkers and pre-clinical validation of new therapeutic targets in respiratory tract tumours.

5.16. Development and clinical assessment of new targeted and immune therapies and identification of predictors of response to respiratory tract tumours.

5.17. Clinical research and development of biomarkers of response to colorectal and digestive cancer.

5.18. Hereditary forms and development of biomarkers in colorectal and digestive cancer.

5.19. Molecular mechanisms, experimental models, biomarkers and pre-clinical validation of new targets in colorectal and digestive cancer.

5.20. Identification and validation of new (targeted and immune) therapies, preclinical models and markers of therapeutic response in pediatric solid (development) tumours.

5.21. Identification and validation of new (targeted and immune) therapies, pre-clinical models and markers of therapeutic response in gynecological and/or genitourinary tumours.