RICORS-ICTUS | Instituto de Salud Carlos III

RESEARCH LINES

OB$_1$ BIOMARKERS FOR IDENTIFICATION OF STROKE AND ITS RECOVERY

OB$_2$ ACUTE-PHASE TREATMENT

OB$_3$ CEREBROPROTECTION

OB$_4$ BRAIN REPAIR AND FUNCTIONAL RECOVERY

OB$_5$ SECONDARY PREVENTION

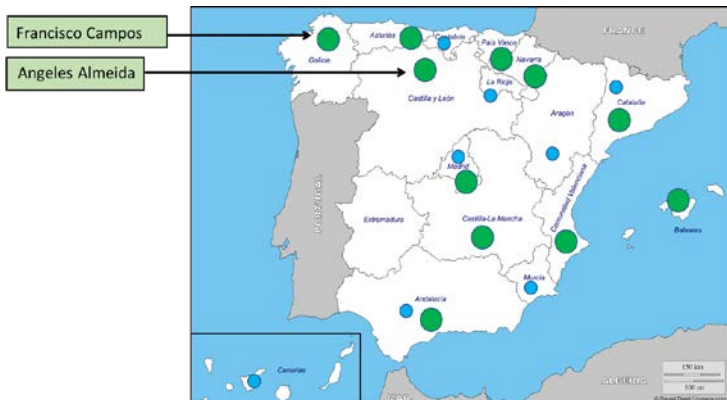RICORS-ICTUS | Instituto de Salud Carlos III

RESEARCH LINES

OB$_1$ BIOMARKERS FOR IDENTIFICATION OF STROKE AND ITS RECOVERY

OB$_2$ ACUTE-PHASE TREATMENT

OB$_3$ CEREBROPROTECTION

OB$_4$ BRAIN REPAIR AND FUNCTIONAL RECOVERY

OB$_5$ SECONDARY PREVENTION

Lead Partners

RESEARCH LINES

OB₃ CEREBROPROTECTION

1 Study of molecular mechanisms related with the brain injury and ischemic penumbra.

2 Analysis of protective strategies for ischemic and hemorrhagic brain injury.

3 Analysis of molecular and imaging markers of the protective efficacy of therapies.

RG1 Lizasoain; RG2 Fuentes; RG3 Vivancos; RG4 Alcázar;
RG5 Campos; RG6 Castellanos; RG7 Jiménez; RG8 Serena;
RG10 Chamorro; RG11 Purroy; RG12 Millán; RG13 Rosell;
RG14 Freijó; RG15 Salom; RG16 Segura; RG17 Montaner;
RG19 Almeida; RG22 López-Cancio.

RICORS-ICTUS | Instituto de Salud Carlos III

OB₃ **CEREBROPROTECTION**

1 STUDY OF MOLECULAR MECHANISMS RELATED WITH THE BRAIN INJURY AND ISCHEMIC PENUMBRA.

A) Inflammation and Immunity and rupture of the blood-brain barrier.
(*RG1 Lizasoain; RG2 Fuentes; RG6 Castellanos; RG13 Rosell; RG17 Montaner*)

B) Oxidative stress and reperfusion.
(*RG4 Alcázar; RG7 Jiménez; RG8 Serena; RG10 Chamorro; RG11 Purroy; RG12 Millán; RG15 Salom; RG16 Segura; RG19 Almeida*)

C) Excitotoxicity damage.
(*RG3 Vivancos; RG5 Campos*)

D) Stroke-heart syndrome.
(*RG1 Lizasoain*)

CEREBROPROTECTION

OB₃

2 ANALYSIS OF PROTECTIVE STRATEGIES.

A) Preconditioning *(eg; p53, mediterranean diet or physical exercise)*
(RG11 Purroy; RG19 Almeida; RG22 López-Cancio)

B) Antioxidant treatments *(eg; uric acid)*
(RG4 Alcázar; RG10 Chamorro; RG15 Salom, RG16 Segura)

C) Blood glutamate lowering *(eg; hemodialysis and recombinant transaminases against glu excitoxicty)*
(RG3 Vivancos; RG5 Campos)

D) Therapeutic window improvements (eg; evaluate the efficacy of neuroprotective in the ambulance).
(RG17 Montaner)

E) Immune therapies (eg; antagonist of TLR4 (aptamer; ApTOLL)
(*RG1 Lizasoain)*

F) Nanomedicine (eg; drug delivery)
(RG2 Fuentes; RG5 Campos; RG13 Rosell)

OB₃ CEREBROPROTECTION

3 ANALYSIS OF MOLECULAR AND IMAGING MARKERS OF THE PROTECTIVE EFFICACY OF THERAPIES.

A) Imaging markers *(eg; MRI, PET)*
(RG14 Freijó)

B) Molecular markers *(eg; surrogate markers of neuroprotective therapeutic efficacy, such as a bcl-2 family member)*

(RG1 Lizasoain; RG2 Fuentes; RG3 Vivancos; RG4 Alcázar; RG5 Campos; RG6 Castellanos; RG7 Jiménez; RG8 Serena; RG10 Chamorro; RG11 Purroy; RG12 Millán; RG13 Rosell; RG14 Freijó; RG15 Salom; RG16 Segura; RG17 Montaner; RG19 Almeida; RG22 López-Cancio)

RESEARCH LINES

OB₃ **CEREBROPROTECTION**

DELIVERABLES´ OBJECTIVE

1.1. Experimental studies of inflammatory response (0-24 Months)

1.2. Experimental studies of oxidative stress (6-30 M)

1.3. Analysis of the correlation between glutamate and oxidative stress. Clinical studies of validation (12-36 M)

1.4. Experimental and clinical validation of glutamate hemostasis (0-30 M)

1.5. Experimental and clinical validation of circadian rhythm (12-36 M)

2.1. Experimental and clinical validation of preconditioning effect (12-30 M)

RICORS-ICTUS | Instituto de Salud Carlos III

OB₃ CEREBROPROTECTION

DELIVERABLES´ OBJECTIVE

2.2. Clinical studies (Uric acid, mediterranean diet) (0-36 M)

2.3. Clinical trials of glutamate (0-36 M)

2.4. Clinical study of protective drugs at the ambulance (0-36 M)

2.5. Clinical trials of aptamer (0-24 M)

2.6. Experimental studies of nanocarriers (12-36 M)

3.1. Experimental studies using advanced imaging techniques (12-36 M)

3.2. Clinical studies of polymorphisms (0-36 M)

3.3. Experimental studies of antiapoptotic markers (12-36 M)