



Dr. María Monsalve, PhD

Assistant Professor & Group Leader
Dept. Metabolism and Cell Signaling
Instituto de Investigaciones Biomédicas Alberto Sols (CSIC-UAM)
Madrid
Spain

Toolbox contribution

Experimental models in mice:

- Liver ischemia-reperfusion injury and ischemic preconditioning
- Hyperoxia induced retinopathy.
- Bone marrow transplantation
- Implantation of Matrigel plugs for angiogenesis studies.

Mice:

- PGC-1 α ^{-/-}, PGC-1 α flox/flox, Tie2-Cre, SirT1^{+/-}

Biomarkers:

- ROS.

STSM topics:

Techniques:

- Mouse animal surgery.
- Generation, amplification and handling of Adenoviral vectors.
- Isolation of primary endothelial cells from mice (MLEC, MAEC), cows (BAEC) and humans (HUVEC), mice primary hepatocytes and MEFs
- Whole mount retinas immunofluorescence analysis
- Angiogenesis tube formation *in vitro* with aortic rings and isolated primary cells on matrigel.
- O₂ controlled incubator and hypoxic chamber for *in vitro* IR studies.

Research topics:

- Transcriptional regulation of antioxidant genes.
- Pathologies associated to metabolic dysfunctions.

WG Meeting contribution

- Cross-talk between NOX and mitochondria.
- NO regulation of metabolism
- Cross-talk between TGF- β and Ins signaling.
- Metabolic control and the response to hypoxia
- ROS control of VEGF signaling.
- Metabolic control of tissue regeneration, stem cells, oxygen and angiogenesis.