



ZIHP Special Seminar

Tuesday, March 5, 2019, 1:00 pm

! NEW TIME !

WAGI 12, 8952 Schlieren

WAD-J-121/123 (4. OG)

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A Greek god, a blue protein, and their roles in retinal and brain iron regulation

Iron is needed for numerous life-sustaining metabolic processes, but toxic when dysregulated. Both retinal and brain neurodegeneration can be exacerbated by iron-induced oxidative damage and ameliorated by iron chelation. The CNS is lipid-rich, and iron can readily promote oxidation of lipids, promoting their toxicity. One cause of iron dysregulation is neuroinflammation, in which pro-inflammatory cytokines trigger neuronal iron uptake. Normally, to enter the retina and brain, iron must be transported across the blood-CNS barriers. It is then delivered to cells within the neural tissue and can be exported from these cells when in excess. Much has been learned in recent years about the iron regulatory proteins ferroportin, ceruloplasmin, hephaestin, and hepcidin. A model will be presented by which neuroinflammation leads to CNS iron accumulation, promoting lipid oxidation, which then exacerbates neurodegeneration

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