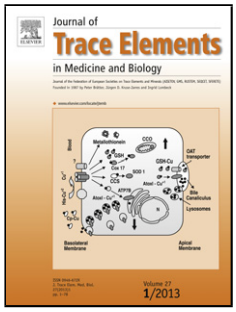
Accepted Manuscript



Title: A new ferrous diflunisal complex and its effects on biopools of labile iron

Authors: Luca Michael Sihn, Fernando Menegatti de Melo, Henrique Eisi Toma, Silvia Helena Pires Serrano, Breno Pannia Espósito

PII: S0946-672X(18)30458-9
DOI: https://doi.org/10.1016/j.jtemb.2018.10.001
Reference: JTEMB 26227

To appear in:

Received date: 14-7-2018
Revised date: 5-9-2018
Accepted date: 1-10-2018

Please cite this article as: Sihn LM, de Melo FM, Toma HE, Pires Serrano SH, Espósito BP, A new ferrous diflunisal complex and its effects on biopools of labile iron, *Journal of Trace Elements in Medicine and Biology* (2018), https://doi.org/10.1016/j.jtemb.2018.10.001

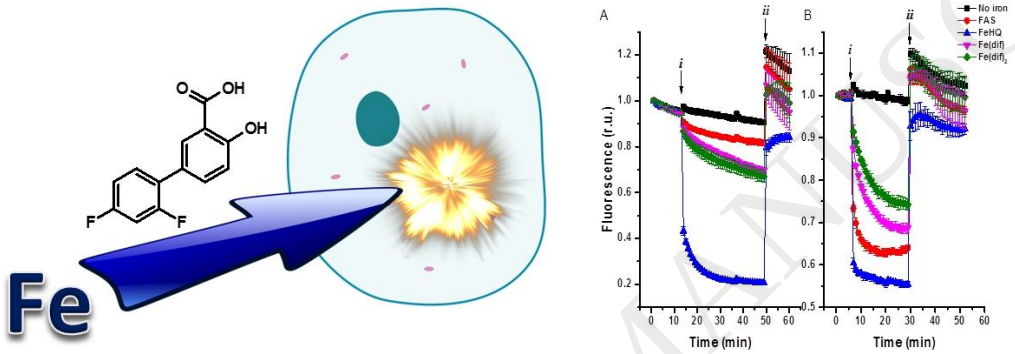
A new ferrous diflunisal complex and its effects on biopools of labile iron

Luca Michael Sihn[1], Fernando Menegatti de Melo[2], Henrique Eisi Toma[2], Silvia Helena Pires Serrano[3], Breno Pannia Espósito[1,*]

[1] Laboratory for Bioinorganic Chemistry and Metallodrugs [2] Supramolecular Nanotech Lab [3] Laboratory of Bioelectrochemistry and Bioelectroanalytical Chemistry, Department of Fundamental Chemistry, Institute of Chemistry, University of São Paulo, Av. Prof. Lineu Prestes 748, São Paulo, SP 05508-000, Brazil.

*Author to whom correspondence should be addressed: breno@iq.usp.br

Graphical abstract



Highlights

- Diflunisal forms a complex with iron(II)
- Iron-diflunisal species have access to HeLa or HepG2 cells
- Increase in labile cell iron may result in oxidative stress

Abstract

Drugs bearing metal-coordinating moieties can alter biological metal distribution. In this work, a complex between iron(II) and diflunisal was prepared in the solid state, exhibiting the following composition: $[Fe(diflunisal)_2(H_2O)_2]$, $(Fe(dif)_2)$. The ability of diflunisal to alter labile pools of both plasmatic and cellular iron was investigated in this work. We found out that diflunisal does not