

Redox Biology, Bioanalytical Chemistry

Research Topics

- Effects of free radicals and antioxidants in living systems
 - Analytical methods for detection and quantification of redox-active molecules in biological matrices
- Thiol antioxidants for the treatment of age-related eye disorders
 - Eye drop formulation for non-invasive prevention/reversal of cataracts
 - *In vivo* and *in vitro* investigations of drug delivery vehicles to increase effectiveness of thiol drug candidates for cataract therapy

Facilities

Schrenk Hall, Room 238

PoC

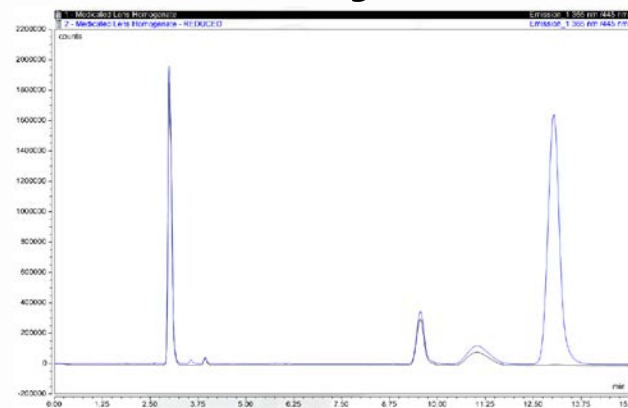
- Dr. Nuran Ercal, Richard K. Vitek/FCR Endowed Chair in Biochemistry, Chemistry
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Funding

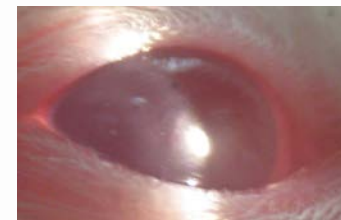
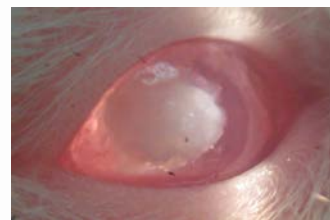
- National Institutes of Health, National Eye Institute, Environmental Protection Agency



HPLC investigation of thiol drug (tiopronin) pharmacokinetics in rat lens.



Novel thiol antioxidant NACA reverses cataracts in Wistar rats.



Keywords

- antioxidants, cataracts, drug delivery, bioanalytical chemistry, oxidative stress

Recognitions/Significant Achievements

- Multiple awards, Missouri S&T Outstanding Teacher Award
- Multiple awards, Missouri S&T Faculty Excellence Award
- Woman of the Year Award, Missouri S&T, 2003

Areas for Potential Collaboration

- Materials science, polymer chemistry, *in vivo* imaging, ophthalmology