# Robert J. Hondal

PUBLICATIONS

**1)** Jenny KA, Mose G, Haupt DJ, & Hondal RJ. (2022) Oxidized forms of ergothioneine are substrates for mammalian thioredoxin reductase. Antioxidants 11, 185. <https://doi.org/10.3390/antiox11020185>

**2)** Jenny KA, Ruggles EL, Liptak MD, Masterson DS & Hondal RJ. (2021) Ergothioneine in a peptide: Substitution of histidine with 2-thiohistidine in bioactive peptides. J. Pept. Sci. e3339. <https://doi.org/10.1002/psc.3339>

**3)** Ste.Marie E, Wehrle RJ, Haupt DJ, Wood NB, van der Vliet A, Previs MJ, Masterson DS & Hondal RJ. (2020) Can selenoenzymes resist electrophilic modification? Evidence from thioredoxin reductase and a mutant containing alpha-methylselenocysteine. Biochemistry 59, 3300-3315. <https://doi.org/10.1021/acs.biochem.0c00608>

**4)** Ste.Marie E, & Hondal RJ. (2020) 2,2´-Dipyridyl diselenide: A chemoselective tool for cysteine deprotection and disulfide bond formation. J. Pept. Sci. 26, e3236. <https://doi.org/10.1002/psc.3236>

**5)** Barber DR, & Hondal RJ. (2019) Gain of function conferred by selenocysteine: Catalytic enhancement of one-electron transfer reactions by thioredoxin reductase. Protein Sci. 28, 79-89. <https://doi.org/10.1002/pro.3480>

**6)** Ste.Marie E, & Hondal RJ. (2018) Reduction of cysteine-S-protecting groups by triisopropylsilane. J. Pept. Sci. 24, e3130. <https://doi.org/10.1002/psc.3130>

**7)** O’Keefe JP, Dustin CM, Barber DR, Snider GW, & Hondal RJ. (2018) A “seleno-effect” differentiates the roles of redox active cysteine residues in Plasmodium falciparum thioredoxin reductase. Biochemistry 57, 1767-1778. <https://doi.org/10.1021/acs.biochem.8b00004>

**8)** Payne NC, Geissler A, Button A, Sasuclark AR, Schroll AL, Ruggles EL, Gladyshev VN & Hondal RJ. (2017) Comparison of the redox chemistry of sulfur and selenium-containing analogs of uracil. Free Radic. Biol. Med. 104, 249-261. <https://doi.org/10.1016/j.freeradbiomed.2017.01.028>

**9)** Reich HJ & Hondal RJ. (2016) Why Nature chose selenium. ACS Chem. Biol. 11, 821-841.

**10)** Lothrop AP, Snider GW, Ruggles EL, Patel AS, Lees WJ, & Hondal RJ. (2014) Selenium as an electron acceptor during the catalytic mechanism of thioredoxin reductase, Biochemistry 53, 654-663. <https://doi.org/10.1021/bi400658g>

**11)** Lothrop AP, Snider GW, Flemer S. Jr., Ruggles EL, Davidson RS, Lamb A, & Hondal RJ. (2014) Compensating for the absence of selenocysteine in high Mr thioredoxin reductases: The electrophilic activation hypothesis, Biochemistry 53, 664-674. <https://doi.org/10.1021/bi4007258>

**12)** Snider GW, Ruggles EL, Khan N, & Hondal RJ. (2013) Selenocysteine confers resistance to inactivation by oxidation in thioredoxin reductase: Comparison of selenium and sulfur enzymes. Biochemistry 52, 5472-5481. <https://doi.org/10.1021/bi400462j>

**13)** Ruggles EL, Flemer SJ, & Hondal RJ. (2008) A viable synthesis of N-methyl cysteine. Biopolymers 90, 61-68. <https://doi.org/10.1002/bip.20889>

**14)** Harris KM, Flemer S & Hondal RJ. (2007) Studies on deprotection of cysteine and selenocysteine side chain protecting groups.  J. Pept. Sci 13, 81-93. <https://doi.org/10.1002/psc.795>

**15)** Eckenroth BE, Harris K, Turanov AA, Gladyshev VN, Raines RT, & Hondal, RJ. (2006) Semisynthesis and characterization of mammalian thioredoxin reductase.  Biochemistry 45, 5158-5170. <https://doi.org/10.1021/bi0517887>