NADH and Flavoprotein (Fp) are the primary donors of electrons to the electron transport chain during oxidative phosphorylation. When NADH in its reduced form and Fp in its oxidized state both are inherently fluorescent and can provide real time measurements of the oxidative capacity of living cells. In this cochlear whole mount, individual inner hair cells are outlined in red. Cyanide treatment (CN) reduced NADH and Fp as evidenced by the observed increase in NADH and decrease in Fp fluorescence intensity. NADH and Fp were oxidized by FCCP treatment as indicated by the observed decrease in NADH and increase in Fp fluorescence intensity. Images were taken by LeAnn Tiede, Creighton University Department of Biomedical Sciences. See Tiede et al., 2007 for more information.

To avoid damage to the photomultipliers please see Dr. Jensen-Smith prior to starting redox imaging experiments.