

Neuromolecular Imaging: A versatile tool for imaging the brain

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What if one were to envision a biosensor technology which encompassed a biosensor smaller than a human hair which could image several neurochemicals within seconds and milliseconds in real time, *in vivo*, *in vitro* and *in situ* in the living brain? What if this biosensor does not promote bacterial growth during and after use and provided imaging of neurotransmitters and neurochemicals in a current range as low as pico and nano amperes and the biosensor was available for use in humans and animals, anesthetized or freely mobile? What a major step into the millennium for science and medicine! Moreover, what if this biosensor technology were to enable online imaging without losing steady state concentrations of neurotransmitters and neurochemicals and exhibited superior temporal and spatial properties as well? The present book presents such a unique biosensor technology and the biosensor technology is called Neuromolecular Imaging (NMI) and the BRODERICK PROBE®. NMI enables imaging of specific neurotransmitters, neurochemicals, cofactors, metabolites and/or precursors from the living brain, body and/or blood, *in vivo*, *in situ* and *in vitro*. Imaging of neurochemicals is performed by the BRODERICK PROBE® microelectrodes/biosensors. The biosensor operates by detecting current at potential differences, which are specific for each neurotransmitter and/or neurochemical. BRODERICK PROBE® microelectrode/biosensor and Broderick Biotechnology is comprised of a well-organized and developed system of biosensor formulations and analyzing capabilities (US Patents, 1989, 1995, 1999; US Patent # 7,112,319 B2, Sept. 26, 2006, US Patent Pending, 2007). Source: *Neuromolecular Imaging: Introducing the BRODERICK PROBE®* (New York: 2012, forthcoming). This volume is intended as a basic reference for introducing NMI and the BRODERICK PROBE® globally by HEKA Electronics, Nova Scotia, Canada.

Biography

Don Odom, B.S., M.S.Sc., is a New York-based life and biomedical science editor and publisher. Over a career spanning three decades he has published the work of leading scientists across an array of life and biomedical science disciplines including neuroscience and nanotechnology. He also serves on the Board of Directors of THE BRODERICK BRAIN FOUNDATION, a non-profit foundation dedicated to promoting excellence in neuroscience education and research.

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