活体脑化学实时检测文献

活体原位检测

1. 递质

1.1 多巴胺

（1）Liu X , Zhang M , Xiao T , et al. Protein Pre-treatment of Microelectrodes Enables In Vivo Electrochemical Measurements with Easy Pre-calibration and Interference-Free from Proteins[J]. Analytical Chemistry, 2016:acs.analchem.6b01476.

（2）Liu, X., Xiao, T., Wu, F., Shen, M. Y., Zhang, M., Yu, H. H., Mao, L. Ultrathin Cell-Membrane-Mimic Phosphorylcholine Polymer Film Coating Enables Large Improvements for In Vivo Electrochemical Detection. Angew. Chem. Int. Ed. 2017, 56, 11802-11806.

2. 离子

2.1 钾离子

Zhao, L., Jiang, Y., Hao, J., Wei, H., Zheng, W., Mao, L. Graphdiyne oxide enhances the stability of solid contact-based ion selective electrodes for excellent in vivo analysis. Science China Chemistry, 2019 62(10), 1414-1420.

2.2 钙离子

Lijun, Zhao, Ying, et al. In Vivo Measurement of Calcium Ion with Solid-State Ion-Selective Electrode by Using Shelled Hollow Carbon Nanospheres as a Transducing Layer.[J]. Analytical chemistry, 2019

3. 气体

3.1 氧气

（1）Xiang L , Yu P , Zhang M , et al. Platinized Aligned Carbon Nanotube-Sheathed Carbon Fiber Microelectrodes for In Vivo Amperometric Monitoring of Oxygen[J]. Analytical Chemistry, 2014, 86(10):5017-5023.

（2） Zhao, L., Jiang, Y., Hao, J., Wei, H., Zheng, W., Mao, L. Graphdiyne oxide enhances the stability of solid contact-based ion selective electrodes for excellent in

vivo analysis. Science China Chemistry, 2019 62 (10), 1414-1420.

4. 外环境

pH 值

Hao, J., Xiao, T., Wu, F., Yu, P., Mao, L. High Antifouling Property of Ion-Selective Membrane: toward In Vivo Monitoring of pH Change in Live Brain of Rats with Membrane-Coated Carbon Fiber Electrodes. Anal. Chem. 2016, 88, 11238-11243.

5. 其他物质

5.1 维 C

Mao L , Xiao T , Wei H , et al. Electrochemical Monitoring of Propagative Fluctuation of Ascorbate in Live Rat Brain during Spreading Depolarization[J]. Angewandte Chemie International Edition, 2019.

5.2 过氧化氢

Li R , Liu X , Qiu W , et al. In Vivo Monitoring of H2O2 with Polydopamine and Prussian Blue-coated Microelectrode[J]. Analytical Chemistry, 2016: acs.analchem.6b01765.

活体电化学检测文献

1.葡萄糖、乳酸

（1）Wang, X., Li, Q., Xu, J., Wu, S., Xiao, T., Hao, J. Mao, L. Rational design of bioelectrochemically multifunctional film with oxidase, ferrocene, and graphene oxide for development of in vivo electrochemical biosensors. Anal. Chem. 2016, 88, 5885-5891.（葡萄糖）

（2）Lin, Y., Yu, P., Hao, J., Wang, Y., Ohsaka, T., Mao, L. Continuous and simultaneous electrochemical measurements of glucose, lactate, and ascorbate in rat brain following brain ischemia. Analytical chemistry, 2014 86(8), 3895-3901.（葡萄糖、乳酸和抗坏血酸）

（3）Yuqing Lin, Kun Liu, Ping Yu, Ling Xiang , Xianchan Li, and Lanqun Mao. A Facile Electrochemical Method for Simultaneous and On-Line Measurements of

Glucose and Lactate in Brain Microdialysate with Prussian Blue as the Electrocatalyst for Reduction of Hydrogen Peroxide.Anal. Chem. 2007, 79, 9577-9583.（葡萄糖和乳酸）

2. 镁离子

（1）Zhang, Z.; Zhao, L.; Lin, Y.; Yu, P.; Mao, L. Online electrochemical measurements of Ca2+ and Mg2+ in rat brain based on divalent cation enhancement toward electrocatalytic NADH oxidation. Anal. Chem. 2010, 82, 9885–9891.

3.维 C

（1） Dalei Wang, Xianchan Li, Ying Jiang, Yanan Jiang, Wenjie Ma, Ping Yu, Lanqun Mao.Ischemic Postconditioning Recovers Cortex Ascorbic Acid during Ischemia/Reperfusion Monitored with an Online Electrochemical System. ACS Chem. Neurosci. 2019, 10, 5, 2576-2583.