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Kai Y. Xu, PhD

Academic Title:

Associate Professor

Primary Appointment:

Surgery

Email:

kxu@som.umaryland.edu

Location:

MSTF, 434E

Phone (Primary):

(410) 706-2598

Phone (Secondary):

(410) 706-4299

Fax:

(410) 706-0311

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Education and Training

- University of California, San Diego, PhD, Biochemistry, 1988
- Harvard Medical School/Massachusetts General Hospital, Postdoctoral Researcher, Protein Chemistry, 1988
- Yale University School of Medicine, Postdoctoral Researcher, Molecular Biology, 1990
- Johns Hopkins University School of Medicine, Instructor, Cardiology Biomedical Research, 1992

Biosketch

Dr. Xu's translational research focuses on innovation, fundamental mechanism, and rigorous development of novel immunotherapy in areas of heart failure, kidney failure, and thrombosis. Dr. Xu's laboratory has discovered enzyme activator-based immunotherapy and innovative technologies that may potentially be used to overcome existing barriers and improve clinical outcomes for better prevention and treatment of disease to enhance human health.

Research/Clinical Keywords

Heart Failure, Kidney Failure, Thrombosis, Diabetes, Immunotherapy

Highlighted Publications

- Xu KY, Zweier JL, Becker LC. Functional Coupling Between Glycolysis and Sarcoplasmic Reticulum Ca^{2+} Transport. Circulation Research (1995)77:88-97.
- Xu KY, Zweier JL, Becker LC. Hydroxyl Radical Inhibits Sarcoplasmic Reticulum Ca-ATPase Function by Direct Attack on the ATP Binding Site. Circulation Research (1997)80:76-81.
- Xu KY, Huso DL, Dawson TM, Bredt DS, Becker LC. Nitric Oxide Synthase in Cardiac Sarcoplasmic Reticulum. Proc. Natl. Acad. Sci. (1999)96:657-662.
- Xu KY. Activation of $(Na^{+}+K^{+})$-ATPase (as Breakthroughs) Biochem. Biophys. Res. Commun. (2005)338:1669-1677.
- Xu KY, Takimoto E, Juang GJ, Zhang Q, Rohde H, Myers AC. Evidence that the H1-H2 Domain of α1 Subunit of $(Na^{+}+K^{+})$-ATPase Participates in the Regulation of Cardiac Contraction, FASEB (2005)19:53-61.
- Lee DI, Klein MG, Zhu W, Xiao RP, Gerzanich V,Xu KY. Activation of $(Na^{+}+K^{+})$-ATPase Modulates Cardiac L-Type Ca^{2+} Channel Function. Mol. Pharmacol. (2009)75:774-781.
- Xu KY, Zhu W, Chen L, DeFilippi C, Zhang J, Xiao R-P. Mechanistic distinction between activation and inhibition of $(Na^{+}+K^{+})$-ATPase-mediated Ca^{2+} influx in cardiomyocyte. Biochem. Biophys. Res. Commun. (2011)406:200-203.
- Kurita H, Xu KY, Maejima Y, Nakata M, Dezaki K, Santoso P, Yang Y, Arai T, Gantulga D, Muroya S, Lefor AK, Kakei M, Watanabe E, Yada T. Arcuate Na^{+},K^{+}-ATPase senses systemic energy states and regulates feeding behavior through glucose-inhibited neurons. Am J Physiol Endocrinol Metab (2015) 309:E320-E333.

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