Mark K. Coggeshall, Ph.D.

Robert S. Kerr, Jr. Endowed Chair
Oklahoma Medical Research Foundation

Contact Information:
E-mail: Mark-Coggeshall@omrf.org
Phone: 405-271-7905
Office: Rm S400 Chapman Bldg, Oklahoma Medical Research Foundation, Oklahoma City, OK 73104

Education:

1979: B.A., Biology, St. Illinois University
1985: Ph.D., Microbiology & Immunology, Duke University
1987: Post-doc, Immunology, Washington University
1990: Post-doc, Immunology, Scripps Research Institution

Academic Appointments:

1990-1992: Research Associate, La Jolla Institution, Department of Allergy & Immunology
1992-1995: Assistant Professor, Ohio State University, Department of Microbiology
1995-1999: Associate Professor with tenure, Ohio State University, Department of Microbiology
1999-2002 :Associate Member, Immunobiology and Cancer Program, OMRF
2002-present: Member, Immunobiology and Cancer Program, OMRF
2003: Robert S. Kerr Foundation Chair in Cancer Research

Awards and Honors:

1990-1993: Cancer Research Institute Fellowship.
1994-1999: NSF Signal Transduction & Regulation Panel Group
1996-1998: NIH Immunobiology Study Section (T32 and F32s)
1998-2003: Scholar, Leukemia Society of America
2000: Session Chair, Molecular Events in B Cell Activation; AAI Conference
2001: Symposium Chair, Autumn Immunol. Conference
2001/2009: NIH Special Emphasis Panel (Chair, 2009)
2002-2006: Panel member, American Heart Association, Immunology & Microbiology, Study Group
2002-2004: Council Member, Autumn Immunology Conference
2006-2011: Member, Innate Immunity & Inflammation NIH Study Section
2009-2010: Scientific Advisory Board, Aquinox Pharmaceuticals
2010-2012: Scientific Advisory Board, Southeast Regional Center of Excellence for Emerging Infections and Biodefense (SERCEB)

Other Experience and Professional Memberships:

2002-present: Member, Immunobiology and Cancer Program, OMRF
2003: Robert S. Kerr Foundation Chair in Cancer Research
2009-present: Scientific Advisory Board, Aquinox Pharmaceuticals
2010-present: Scientific Advisory Board, Southeast Regional Center of Excellence for Emerging Infections and Biodefense (SERCEB)

Research Funding:

Current:

09/30/2019-08/31/2024, NIH/NIAID, U19 AI062629, "Molecular and Immunologic Analysis of the Pathobiology of Human Anthrax Infections", Awarded: $11,644,510.00, Role: PI

07/01/2018-06/30/2023, NIH/NIGMS, 1P20GM103648-01A1, OCRID, "OHet72: A potential new drug in the armamentarium against TB and MDR-TB", Awarded: $22,279.00, Role: Mentor

Past:

2014-2019: U19 AI062629, NIH/NIAID, Admin Core and Project, Parent Grant: "Molecular and Immunologic Analysis of the Pathobiology of Human Anthrax Infections", Subproject: "Anti-peptidoglycan antibodies and complement in anthrax pathogenesis", Role: PI

2013-2018: 5P20GM103648-03, NIH/NIGMS, Parent grant: Oklahoma Center for Respiratory and Infectious Diseases, Subproject: "Control of lung inflammation by a TLR4-interacting SP-A-derived peptide", Role: Mentor

Selected Publications:

K. Nakamura and K.M Coggeshall. 2002. The Src homology 2 domain-containing inositol 5-phosphatase (SHIP) negatively regulates Fcgamma receptor-mediated phagocytosis through ITAM-bearing phagocytic receptor FcgammaRI/III. Blood;100:3374.

Iyer, J. Khurana, T., Langer, M, West, CM, Ballard, JD, Metcalf, JP, Merkel, TJ, Coggeshall, KM. 2010. Inflammatory cytokine response to Bacillus anthracis peptidoglycan requires phagocytosis and lysosomal trafficking. Infect. Immun., 78:2418-2428.

Iyer JK, Coggeshall KM. 2011. Cutting edge: primary innate immune cells respond efficiently to polymeric peptidoglycan, but not to peptidoglycan monomers. J Immunol. 2011 Apr 1;186(7):3841-5.

Sun D, Raisley B, Langer M, Iyer JK, Vedham V, Ballard JL, James JA, Metcalf J, Coggeshall KM. 2012. Anti-peptidoglycan antibodies and Fcγ receptors are the key mediators of inflammation in gram-positive sepsis. J Immunol. 2012 Sep 1;189(5):2423-31.

Sun D, Popescu NI, Raisley B, Keshari RS, Dale GL, Lupu F, Coggeshall KM. B. anthracis peptidoglycan activates human platelets through FcγRII and complement. Blood. 2013 Jul 25;122(4):571-9.

Coggeshall KM, Lupu F, Ballard J, Metcalf JP, James JA, Farris D, Kurosawa S. The sepsis model: an emerging hypothesis for the lethality of inhalation anthrax. J Cell Mol Med. 2013 Jul;17(7):914-20.

Lupu F, Keshari RS, Lambris JD, Mark Coggeshall K. Crosstalk between the coagulation and complement systems in sepsis.Thromb Res. 2014 May;133 Suppl 1:S28-31.

Narcis I. Popescu, Robert Silasi, Ravi S. Keshari, Alanson Girton, Tarea Burgett, Sacha S. Zeerleder, Andras Gruber, Florea Lupu, K. Mark Coggeshall. Peptidoglycan induces disseminated intravascular coagulopathy in baboons through activation of both coagulation pathways. Blood. 2018 132(8):849-860. doi: 10.1182/blood-2017-10-813618. Epub 2018 Jun 19.

Alanson W. Girton, Narcis I. Popescu, Ravi S. Keshari, Tarea Burgett, Florea Lupu and K. Mark Coggeshall. Serum amyloid P and IgG exhibit differential capabilities in the activation of the innate immune system in response to Bacillus anthracispeptidoglycan. Infect Immun. 2018 86(5). pii: e00076-18. doi: 10.1128/IAI.00076-18. Print 2018 May.

Narcis I. Popescu, Alanson Girton, Tarea Burgett, Kessa Fehring, Mark. K. Coggeshall. Monocyte procoagulant responses to anthrax peptidoglycan are reinforced by paracrine/autocrine proinflammatory signaling (Blood Adv., in press).

Coggeshall, K.M. and J.C. Cambier. 1984. B cell activation. VIII. Membrane immunoglobulins transduce signals via activation of phosphatidylinositol hydrolysis. J. Immunol. 133, 3382.

Coggeshall, K.M. and J.C. Cambier. 1985. B cell activation. VI. Effects of exogenous diglyceride and modulators of phospholipid metabolism suggest a central role for diacylglycerol generation in transmembrane signalling by mIg. J. Immunol. 134, 101.

Mustelin, T., K.M. Coggeshall, N. Isakov and A. Altman. 1990. Tyrosine phosphorylation is required for T cell antigen receptor-mediated activation of phospholipase C. Science 247, 1584.

Coggeshall, K.M., J.M. McHugh and A. Altman. 1992. Differential expression and activation-induced tyrosine phosphorylation of PLC‑1 and PLC‑2 in T and B cells. Proc. Natl. Acad. Sci. USA. 89, 5660.

Chacko, G., Tridandapani, S., Damen, J., Liu, L., Krystal, G. and K.M. Coggeshall. 1996. Cutting Edge: Negative signaling in B-lymphocytes induces tyrosine phosphorylation of the 145 kDa inositol polyphosphate 5-phosphatase, SHIP. J. Immunol. 157:2234.

Tridandapani, S., Kelley, T., Cooney, D., Pradhan, M., Justement, L. and K.M. Coggeshall. 1997. Recruitment and phosphorylation of SHIP and Shc to the B cell Fc‑ ITIM peptide motif. Mol. Cell. Biol. 17:4305.

Cooney, D.S.; H. Phee; A. Jacob; and K.M. Coggeshall. 2001. Signal transduction by human-restricted Fc‑RIIa involves three distinct cytoplasmic kinase families leading to phagocytosis. J. Immunol. 167: 844-854.

K. Nakamura and K.M Coggeshall. 2002. The Src homology 2 domain-containing inositol 5-phosphatase (SHIP) negatively regulates Fc‑‑receptor-mediated phagocytosis through ITAM-bearing phagocytic receptor Fc‑RI/III. Blood;100:3374.

Iyer, J. Khurana, T., Langer, M, West, CM, Ballard, JD, Metcalf, JP, Merkel, TJ, Coggeshall, KM. 2010. Inflammatory cytokine response to Bacillus anthracis peptidoglycan requires phagocytosis and lysosomal trafficking. Infect. Immun., 78:2418-2428. PMCID: PMC2876538.

Iyer JK, Coggeshall KM. 2011. Cutting edge: primary innate immune cells respond efficiently to polymeric peptidoglycan, but not to peptidoglycan monomers. J Immunol. 2011 Apr 1;186(7):3841-5. PMCID: PMC3071148.

Sun D, Raisley B, Langer M, Iyer JK, Vedham V, Ballard JL, James JA, Metcalf J, Coggeshall KM. 2012. Anti-peptidoglycan antibodies and Fcγ receptors are the key mediators of inflammation in gram-positive sepsis. J Immunol. 2012 Sep 1;189(5):2423-31. PMCID:PMC3424298.

Sun D, Popescu NI, Raisley B, Keshari RS, Dale GL, Lupu F, Coggeshall KM. B. anthracis peptidoglycan activates human platelets through FcγRII and complement. Blood. 2013 Jul 25;122(4):571-9. PMCID:PMC3724192