

Curriculum Vitae

Timothy A. Burke

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My successful 20 plus years of experience in analytical chemistry, biochemistry, cell biology, immunology and molecular biology have contributed to multiple important scientific discoveries reported in high impact peer reviewed journals. The studies leading to these discoveries were supported by National Institutes of Health (NIH) long-term funded scientific grants with myself as a significant contributor to their authorship. Before switching to microbiology, English was the initial major of my university studies, and that has significantly benefited my professional scientific career.

Research Experience and Accomplishments

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|---|--------------|
| University of Colorado Denver, Aurora, CO
Department of Surgery
Professional Research Assistant/Author and Grant/Publication Reviewer | 2012-Present |
| Bridging Health to Science, LLC.
Aurora, CO
CMC/Regulatory/Safety Medical Writing Consultant | 2011-Present |
| Reader Services, LLC.
Aurora, CO
Professional Grant/Manuscript Review | 2006-Present |
| Cleveland Clinic, Lerner Research Institute
Department of Molecular Cardiology
Cleveland, OH
Principal Research Technologist | 1992-2012 |
| <ul style="list-style-type: none">• Discovery and characterization of a nuclear core histone (H2B) as a non-transmembrane cell surface receptor for plasminogen, a promoter of fibrinolysis and leukocyte migration.• Discovery of a new role for fibrinogen in thrombus stability where it ablates from the clot surface thereby protecting the clot from leukocyte adhesion and thus clot lysis. | |
| The Scripps Research Institute
Department of Immunology and the Committee on Vascular Biology,
Research Assistant II | 1982-1992 |

- The first identification of an integrin (GPIIb-IIIa, CD 41/61) ligand binding site (the RGD binding region on GPIIIa) and the subsequent localization of the binding region on GPIIb

Research Expertise

- Radiolabeling peptides, proteins, cells and nucleic acids using ¹²⁵I, ¹³¹I, ⁵¹Cr, ⁴⁵Ca, ³²P, ¹⁴C, ³H, ¹¹¹In including other isotopes.
- Lead trainer of institute personnel in appropriate OSHA, Chemical, Biohazard Safety, Radioisotope, Blood Born Pathogen and HIPPA procedures (Lerner Research Institute of the Cleveland Clinic)
- Biochemistry/Immunology/Protein chemistry techniques utilizing high pressure liquid chromatography (HPLC), low pressure chromatography, thin layer chromatography, spectrofluorometry, capillary electrophoresis, Western, Northern, Southern, ligand blotting, ultracentrifugation, ELISA and RIA, gas phase protein sequencing.
- Developed novel strategies and methods for purification of target proteins.
- Cell biology techniques including the isolation and purification of human and mouse platelets and leukocytes, culture of leukocytes for experimental use *in vivo* and *in vitro*.
- Culture of primary and transformed cell lines (HUVECs, fibroblasts, CHO, HEK, U937 and other monocytoid, macrophage and megakaryocytic lines) for use as experimental platforms.
- Cell migration and cell binding assays.
- Immunology including isolation of lymphocytes, monoclonal and polyclonal antibody production, purification, characterization and modification.
- Molecular biology: PCR/RT-PCR/qPCR, Southern and Northern blots, RNA/DNA purification

Management

- Responsible for the management of funds from multiple NIH RO1 and Program Project grants as well as other non-NIH grants.
- Trained lab personnel in radiation, chemical, fire and bio-safety, animal and human subjects to established standards (USP, cGMP, etc.) and maintaining required safety documentation and materials (CFR standards and institutional chemical hygiene plans).
- Trained department technicians and postdoctoral fellows in instrumentation use and equipment maintenance and designated equipment responsibilities.

Additional Academic Experience

- Writing, proofreading, critiquing and editing of journal articles, presentations (written and oral), grants and correspondence.

- Instructed, mentored and counseled US and international technicians, graduate students and postdoctoral fellows in aspects of science, English and American culture.

Education

- B.Sc. Microbiology, San Diego State University

Publications

1. Silliman CC, Burke T, Kelher MR. The accumulation of lipids and proteins during red blood cell storage: the roles of leucoreduction and experimental filtration. *Blood Transfus.* 2017 Mar;15(2):131-136. doi: 10.2450/2017.0314-16.
2. Dzieciatkowska M¹, D'Alessandro A, Burke TA, Kelher MR, Moore EE, Banerjee A, Silliman CC, West BF, Hansen KC. Proteomics of apheresis platelet supernatants during routine storage: Gender-related differences. *J Proteomics.* 2015 Jan 1; 112:190-209. doi: 10.1016/j.jprot.2014.08.016. Epub 2014 Sep 6.
3. Frolova EG, Pluskota E, Krukovets I, Burke T, Drumm C, Smith JD, Blech L, Febbraio M, Bornstein P, Plow EF, Stenina OI. Thrombospondin-4 regulates vascular inflammation and atherogenesis. *Circ Res.* 2010 Nov 26;107 (11):1313–1325.
4. Das R, Burke T, Van Wagoner DR, Plow EF. L-type calcium channel blockers exert an anti-inflammatory effect by suppressing expression of plasminogen receptors on macrophages. *Circ. Res.* 2009 Jul 17;105 (2):167–175.
5. Das R, Burke T, Plow EF. Histone H2B as a functionally important plasminogen receptor on macrophages. *Blood.* 2007 Nov 15;110 (10):3763–3772.
6. Lishko VK, Burke T, Ugarova T. Antiadhesive effect of fibrinogen: a safeguard for thrombus stability. *Blood.* 2007 Feb 15;109(4):1541–1549.
7. Herren T, Burke TA, Das R, Plow EF. Identification of histone H2B as a regulated plasminogen receptor.

Biochemistry. 2006 Aug 8;45 (31):9463–9474.

8. Herren T, Burke TA, Jardi M, Felez J, Plow EF.
Regulation of plasminogen binding to neutrophils.
Blood. 2001 Feb 15;97 (4):1070–1078.
9. Sherman LA, Burke TA, Biggs JA.
Extracellular processing of peptide antigens that bind class I major histocompatibility molecules.
J Exp Med. 1992 May 1;175 (5):1221–1226
10. Smith JW, Vestal DJ, Irwin SV, Burke TA, Chersesh DA.
Purification and functional characterization of integrin alpha v beta 5. An adhesion receptor for vitronectin.
J Biol Chem. 1990 Jul 5;265(19):11008–11013.
11. D'Souza SE, Ginsberg MH, Burke TA, Plow EF.
The ligand binding site of the platelet integrin receptor GPIIb-IIIa is proximal to the second calcium binding domain of its alpha subunit.
J Biol Chem. 1990 Feb 25;265 (6):3440–3446.
12. D'Souza SE, Ginsberg MH, Burke TA, Lam SC, Plow EF.
Localization of an Arg-Gly-Asp recognition site within an integrin adhesion receptor.
Science. 1988 Oct7;242(4875):91–93.
13. Leberherz HG, Burke T, Shackelford JE, Strickler JE, Wilson KJ.
Specific proteolytic modification of creatine kinase isoenzymes. Implication of C- terminal involvement in enzymic activity but not in subunit-subunit recognition.
Biochem J. 1986 Jan 1;233(1):51–56.

References

Available Upon Request