Dr.M.Balasubramanyam

ICMR Emeritus Scientist

Madras Diabetes Research Foundation (MDRF)

No.4 Conran Smith Road, Gopalapuram, Chennai-600086, India

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(H-index: 43, i-10 index: 78 and Total Citations: 5836)

Qualifications : PhD.,

FAMS., MNASc., FAPASc., FASCh

Date of Birth: 24th May 1960

Specialization: Clinical Research; Disease Biology & Molecular Medicine; Molecular pathogenesis of diabetes and its vascular complications; Accelerated ageing; Biomarkers; Senescence Mechanisms; Clinically relevant Omics studies; testing point-of-care (POC) medical devices.

Positions held in chronological order:

April 2022 to till date: ICMR Emeritus Scientist, Madras Diabetes Research Foundation (MDRF), Chennai

Nov 2021 to till date: Professor & Advisor, Madras Diabetes Research Foundation (MDRF), Chennai

Sep 2020 to Nov 2021: Associate Dean of Medical Research (Medical and Health Sciences), SRM Institute of Science & Technology (SRMIST), Tamil Nadu, India

1999 to 2020: Assistant Director & Senior Scientist, Dean of Research, Madras Diabetes Research Foundation, Chennai, India

1996-1998: Faculty, Centre for Biotechnology, Anna University, Chennai

1991-1995: Post-Doctoral Scientist, New Jersey Medical School, USA

Research Experience:

Possessing ~ 40 years of post-MSc research experience since 1983.

Students compled PhD under my direct supervision and guidance: 14

Research Grants:

1993-1995 American Heart Association Fellowship grant (PI)
1996-1997 Third World Academy of Sciences (TWAS), Italy - Research Grant (PI)
2002-2005 Department of Science & Technology (DST), New Delhi (PI)
2002-2007 FIST-DST Grant (Programme Coordinator)
2003-2006 Department of Biotechnology (DBT) (Co-Investigator)
2006-2010 Indian Council of Medical Research (ICMR) (Co-Investigator)
2003-2006 Department of Science & Technology (DST), New Delhi (Co-PI).
2007-2011 Department of Biotechnology (DBT), New Delhi (PI).

2009-2012 Department of Science & Technology, Indo-Korea Joint Research Project (PI)
2010-2014 Department of Biotechnology (DBT), New Delhi (PI)
2013-2016 Department of Biotechnology (DBT), New Delhi (Co-PI)
2015-2019 Department of Biotechnology (DBT) – Indo-Danish Project (Co-PI)
2014-2017 ICMR-INSERM (Co-PI)
2018-2021 ICMR, Govt. of India (PI)
2022-2025 DHR, Govt. of India (PI)

Summer training & End-semester project training to students:

So far, **>500 summer students** trained and above 6**0 project students** were directly supervised and guided for their end-semester project work.

For the last one decade, serving as Mentor for the students of Summer Research Fellowships selected by IASc-INSA-NASI

Visiting Fellow:

Endeavour Executive Fellow (2015) Awarded by the Education Department of Australia to visit Deakin University for Professional Development
Seoul National University, South Korea (2009) – Interaction on 'Angiogenic Mechanisms'
University of Warwick, UK (2010) - Interaction with Metabolic Diseases Work Group
University of San Diego, USA (2004) – Interaction with Metabolic Diseases Work Group – Human skeletal muscle/Fat biopsy for Clinical Translational research

Scientific Services:

Expert Committee member in all funding agencies (ICMR, DHR, DBT, DST, DRDO)
Project Monitoring Committee (PMC) Member in BIRAC and TDB, Govt, of India

Talks/Distinguished Lectures delivered (2005-2022):

>235 talks/distinguished lectures at national and international conferences

Select 69 Publications from the Total Publications: 151)

1. Sharma S, Subrahmanyam YV, Ranjani H, Sidra S, Parmar D, Vadivel S, Kannan S, Grallert H, Usharani D, Anjana R M, **Balasubramanyam M** et al. Circulatory levels of lysophosphatidylcholine species in obese adolescents: Findings from cross-sectional and prospective lipidomics analyses. Nutr Metab Cardiovasc Dis. 2024 Jul;34(7):1807-1816.

2. **Balasubramanyam M**. The emerging role of senolytics at the interface of inflammation and senescence in diabetes and its complications. In Inflammation Volume 3; **2023**; An Official Publication of Society for Inflammation Research – India

3. Thirumoorthy C, Deepa M, Srikumar BN, Hannah W, Venkatesan U, Nikhil PJ, Hemavathy S, Binukumar B, Anjana RM, Ram U, **Balasubramanyam M**, Saravanan P, Mohan V, Gokulakrishnan K. Altered levels of neurobiological biomarkers at the interface of depression and gestational diabetes mellitus in Asian Indian women. Neuropeptides. 2022 Apr 6;93:102245

4. Parmasivam P, Meugnier E, Gokulakrishnan K, Ranjani H, Staimez LR, Weber MB, Venkat Narayan KM, Vidal H, Tandon N, Prabhakaran D, Anjana RM, Mohan V, Rome S & **Balasubramanyam M**. Blood-derived miRNA levels are not correlated with metabolic or anthropometric parameters in obese pre-diabetic subjects but with systemic inflammation. PLoS One. 2022;17(2): e0263479

5. Gokulakrishnan K, Pandey GK, Sathishkumar C, Sundararajan S, Durairaj P, Manickam M, Mohan V, **Balasubramanyam M**. Augmentation of RBP4/STRA6 signaling leads to insulin resistance and inflammation and the plausible therapeutic role of vildagliptin and metformin. Mol Biol Rep 2021 May;48(5):4093-4106

6. Chandru S, Prabhu P, **Balasubramanyam M**, Subhashini R, Mangesh Tiwaskar M, Pramodkumar TA, Pradeepa R, Anjana RM, & Mohan V. Beneficial Primary Outcomes of Metabolic Surgery with Changes in Telomere Length and Mitochondrial DNA in Obese Asian Indians with Dysglycemia. Journal of The Association of Physicians of India, 2021, 69 :43-47.

7. Pinna NK, Anjana RM, Saxena S, Dutta A, Gnanaprakash V, Rameshkumar G, Aswath S, Raghavan S, Shanthirani CS, Radha V, **Balasubramanyam, M**. et al. Trans-ethnic gut microbial signatures of prediabetic subjects from India and Denmark. Genome Med. 2021;13(1):36. doi: 10.1186/s13073-021-00851-9.

8. Alvarez-Silva C, Kashani A, Hansen TH, Pinna NK, Anjana RM, Dutta A, Saxena S, Stoy J, Kampmann U, Nielsen T, Jorgensen T, Gnanaprakash V, Gnanavadivel, R, Sumaran A, Shanthirani CS, Faerch K, Radha V, **Balasubramanyam M**. et al. Trans-ethnic gut microbiota signatures of type 2 diabetes in Denmark and India. Genome Med. 2021;13(1):37. doi: 10.1186/s13073-021-00856-4.

9. Raghavan S, Malayaperumal S, Mohan V and **Balasubramanyam M**. A Comparative study on the Cellular Stressors in Mesenchymal Stem Cells (MSCs) and Pancreatic β-cells under Hyperglycemic Milieu. Mol Cell Biochem. 2021 Jan;476(1):457-469. doi: 10.1007/s11010-020-03922-4.

10. Jayachandran I, Sundararajan S, Venkatesan S, Paadukaana, **Balasubramanyam M**, Mohan V and Manickam N. Asymmetric dimethylarginine (ADMA) accelerates renal cell fibrosis under high glucose condition through NOX4/ROS/ERK signaling pathway. Sci Rep. 2020 Sep 29;10(1):16005. doi: 10.1038/s41598-020-72943-2

11. Sundararajan S, Jayachandran I, Subramanian CS, Anjana RM, **Balasubramanyam M**, Mohan V, Venkatesan B and Manickam N. Decreased sestrin levels in patients with type 2 diabetes and dyslipidemia and their association with the severity of atherogenic index. J Endocrinol Invest. 2020 Oct 13. doi: 10.1007/s40618-020-01429-9.
12. Prabu P, Poongothai S, Shanthirani CS, Anjana RM, Mohan V, **Balasubramanyam M**. Altered circulatory levels of miR-128, BDNF, cortisol and shortened telomeres in patients with type 2 diabetes and depression. Acta Diabetol. 2020, 57(7):799-807

13. Soundararajan A, Yoganantharajah P, Raghavan S, Mohan V, **Balasubramanyam M**, Gibert Y. Bisphenol A exposure under metabolic stress induces accelerated cellular senescence in vivo in a p53 independent manner. Sci Total Environ. 2019;689:1201-1211

14. Pandey GK, Vadivel S, Raghavan S, Mohan V, **Balasubramanyam M**, Gokulakrishnan K. High molecular weight adiponectin reduces glucolipotoxicity-induced inflammation and improves lipid metabolism and insulin sensitivity via APPL1-AMPK-GLUT4 regulation in 3T3-L1 adipocytes. Atherosclerosis. 2019; 288:67-75

15. Soundararajan A, Prabu P, Mohan V, Gibert Y, **Balasubramanyam M**. Novel insights of elevated systemic levels of bisphenol-A (BPA) linked to poor glycemic control, accelerated cellular senescence and insulin resistance in patients with type 2 diabetes. Mol Cell Biochem. 2019; 458(1-2):171-183

16. Prabu P, Rome S, Sathishkumar C, Gastebois C, Meugnier E, Mohan V, **Balasubramanyam M**. MicroRNAs from urinary extracellular vesicles are non-invasive early biomarkers of diabetic nephropathy in type 2 diabetes patients with the 'Asian Indian phenotype'. Diabetes Metab. 2019; 45(3):276-285

17. Sathishkumar C, Prabu P, Mohan V**, Balasubramanyam M**. Linking a role of lncRNAs (long non-coding RNAs) with insulin resistance, accelerated senescence, and inflammation in patients with type 2 diabetes. Hum Genomics. 2018 Aug 23;12(1):41. doi: 10.1186/s40246-018-0173-3.

18. Gielen M, Hageman GJ, Antoniou EE, Nordfjall K, Mangino M, **Balasubramanyam M** et al (TELOMAAS Group) Body mass index is negatively associated with telomere length: a collaborative cross-sectional meta-

analysis of 87 observational studies. Am J Clin Nutr. 2018;108(3):453-475. doi: 10.1093/ajcn/nqy107.

19. Sundararajan S, Jayachandran I, **Balasubramanyam M**, Mohan V, Venkatesan B, Manickam N. Sestrin2 regulates monocyte activation through AMPK-mTOR nexus under high-glucose and dyslipidemic conditions. J Cell Biochem. 2018 Nov 18. doi: 10.1002/jcb.28102. [Epub ahead of print]

20. Gokulakrishnan K, Ranjani H, Weber MB, Pandey GK, Anjana RM, **Balasubramanyam M**, Prabhakaran D, Tandon N, Venkat Narayan KM, Mohan V. Effect of lifestyle improvement program on the biomarkers of adiposity, inflammation and gut hormones in overweight/obese Asian Indians with prediabetes. Acta Diabetol. 2017 Jun 15. doi: 10.1007/s00592-017-1015-9. [Epub ahead of print]

21. Jayachandran I, Sundararajan S, Paramasivam P, Venkatesan B, Subramanian SC, **Balasubramanyam M**, Mohan V, Manickam N. Association of circulatory asymmetric dimethylarginine (ADMA) with diabetic nephropathy in Asian Indians and its causative role in renal cell injury. Clin Biochem. 2017 May 8. pii: S0009-9120(17)30089-9. doi: 10.1016/j.clinbiochem.2017.05.007. [Epub ahead of print]

22. Reddy S, Amutha A, Rajalakshmi R, Bhaskaran R, Monickaraj F, Rangasamy S, Anjana RM, Abhijit S, Gokulakrishnan K, Das A, Mohan V, **Balasubramanyam M**. Association of increased levels of MCP-1 and cathepsin-D in young onset type 2 diabetes patients (T2DM-Y) with severity of diabetic retinopathy. J Diabetes Complications. 2017; 31(5):804-809

23. Sathishkumar C, Prabu P, Balakumar M, Lenin R, Prabu D, Anjana RM, Mohan V & **M.Balasubramanyam**. Augmentation of histone deacetylase 3 (HDAC3) epigenetic signature at the interface of proinflammation and insulin resistance in patients with Type 2 Diabetes. Clinical Epigenetics, 2016, 24;8:125.

24. Balakumar M, Raji L, Prabhu D, Sathishkumar C, Prabu P, Mohan V, and **Balasubramanyam M.** 2016. High-fructose diet is as detrimental as high-fat diet in the induction of insulin resistance and diabetes mediated by hepatic/pancreatic endoplasmic reticulum (ER) stress. Molecular and Cellular Biochemistry, 2016, 423(1-2):93-104

25. Bhat S, Jagadeeshaprasad MG, Patil YR, Shaikh ML, Regin BS, Mohan V, Giri AP, **Balasubramanyam M**, Boppana R, Kulkarni MJ. Proteomic insight reveals elevated levels of albumin in circulating immune complexes in diabetic plasma. Mol Cell Proteomics. 2016, 15(6):2011-20.

26. Shiny A., Regin, B., Mohan, V & **Balasubramanyam, M**. Coordinated augmentation of NFAT and NOD signaling mediates proliferative VSMC phenotype switch under hyperinsulinemia, *Atheroscelrosis* 2016, 246:257-66

27. Lenin R, Sankaramoorthy A, Mohan V & **M.Balasubramanyam**. Altered immuno-metabolism at the interface of increased Endoplasmic reticulum (ER) stress in patients with type 2 diabetes. Journal of Leukocyte Biology 2015;98(4):615-22

28. Prabu P, Rome S, Sathishkumar C, Aravind S, Mahalingam B, Shanthirani CS, Gastebois C, Villard A, Mohan V, **Balasubramanyam M.** Circulating MiRNAs of 'Asian Indian Phenotype' Identified in Subjects with Impaired Glucose Tolerance and Patients with Type 2 Diabetes. PLoS One. 2015 May 28;10(5):e0128372. doi: 10.1371/journal.pone.0128372. eCollection 2015.

29. Korwar AM, Vannuruswamy G, Jagadeeshaprasad MG, Jayramaiah RH, Bhat S, Regin BS, Ramaswamy S, Giri AP, Mohan V, **Balasubramanyam M**, Kulkarni MJ. Development of diagnostic fragment ion library for glycated peptides of human serum albumin: targeted quantification in prediabetic, diabetic and microalbuminuria plasma by PRM, SWATH and MSE. Mol Cell Proteomics. 2015, 4(8):2150-9

30. Lenin R, Mohan V, **Balasubramanyam M**. SEAP activity serves for demonstrating ER stress induction by glucolipotoxicity as well as testing ER stress inhibitory potential of therapeutic agents. Mol Cell Biochem. 2015, 404(1-2):271-9

31. Pandey GK, Balasubramanyam J, Balakumar M, Deepa M, Anjana RM, Abhijit S, Kaviya A, Velmurugan K, Miranda P, **Balasubramanyam M**, Mohan V & K.Gokulakrishnan . Altered circulating levels of Retinol binding protein 4 (RBP4) and Transthyretin (TTR) in relation to insulin resistance, obesity and glucose intolerance in Asian Indians. Endocrine Practice, 2015, 21(8):861-9

32. Shiju TM, Mohan V, **Balasubramanyam M**, Viswanathan P. Soluble CD36 in plasma and urine: A plausible prognostic marker for diabetic nephropathy. J Diabetes Complications. 2015, 29(3):400-406

33. Jayashree B., Bibin Y.S., Prabu D., Shanthirani, C.S., Gokulakrishnan K, Lakshmi B.S., Mohan V. & **M. Balasubramanyam**. Increased circulatory levels of Lipopolysaccharide (LPS) and Zonulin signify novel biomarkers of proinflammation in patients with type 2 diabetes. Mol. Cell. Biochem., 2014, 88(1-2):203-10.

34. Shiny A, Regin B, Balachandar V, Gokulakrishnan K, Mohan V, Subash, B and **M.Balasubramanyam**. Convergence of innate immunity and insulin resistance as evidenced by increased Nucleotide Oligomerization Domain (NOD) expression and signaling in monocytes from patients with Type 2 Diabetes. Cytokine 2013, 64(2):564-70

35. Finny Monickaraj F, Aravind S, Nandhini P, Prabu P, Sathishkumar C, Viswanathan M, **Balasubramanyam, M**. Accelerated fat cell aging links oxidative

stress and insulin resistance in adipocytes. Journal of Biosciences 2013, 8(1):113-22

36. Shiny A, Regin B, Abirami N, Anand C, Dixit M, Mohan V, & **Balasubramanyam M.** Hyperinsulinemia-induced vascular smooth muscle cell (VSMC) migration and proliferation is mediated by converging mechanisms of mitochondrial dysfunction and oxidative stress. Molecular and Cellular Biochemistry, 2013, 73(1-2):95-105
37. Mohan V, Shanthi Rani CS, Regin BS, **Balasubramanyam M**, Anjana RM, Matter NI, Poongothai S, Deepa M, Pradeepa, R. Noninvasive Type 2 Diabetes Screening: Clinical Evaluation of SCOUT DS® in an Asian Indian Cohort. Diabetes Technology and Therapeutics, 2013, 15(1):39-45
38. Indulekha K, Surendar J, Anjana RM, Gokulakrishnan K, **Balasubramanyam M**, Aravindhan V, Mohan V. Circulating levels of high molecular weight (HMW) adiponectin and total adiponectin in relation to fat distribution, oxidative stress and inflammation in Asian Indians. Dis Markers. 2012, 33(4):185-92
39. Monickaraj, F., Gokulakrishnan, K., Prabu, P., Sathishkumar, C., Anjana, R.M., Rajkumar, J.S., Mohan, V & **Balasubramanyam, M**. Convergence of adipocyte hypertrophy, telomere shortening and hypoadiponectinemia in obese subjects and in patients with Type 2 diabetes. Clinical Biochemistry 2012, 45(16-17):1432-8
40. Mohan, N., Monickaraj, F., **Balasubramanyam, M**., Rema, M. and V.Mohan. Imbalanced Levels of Angiogenic and Angiostatic Factors in Vitreous, Plasma and Postmortem retinal tissue of Patients with Proliferative Diabetic Retinopathy. Journal of Diabetes and its Complications 2012, 26(5):435-41
41. Monickaraj, F., Aravind, S., Gokulakrishnan, K., Satishkumar, C., Prabu, P., Prabu, D., Viswanathan Mohan, V. & **M. Balasubramanyam**. Accelerated ageing as evidenced by increased telomere shortening and mitochondrial DNA depletion in patients with Type 2 diabetes. Molecular and Cellular Biochemistry 2012, 365(1-2):343-50
42. Raji, L., Sneha Maria, M., Agrawal, M., Jayashree, B., Mohan, V. & **M.Balasubramanyam**. Amelioration of glucolipotoxicity-induced Endoplasmic Reticulum Stress by a 'chemical chaperone' in human THP-1 monocytes. Experimental Diabetes Research 2012, 2012:356487. Epub 2012 Apr 10
43. **Balasubramanyam M**, Aravind S, Gokulakrishnan K, Prabu P, Sathishkumar C, Ranjani H and Mohan, V. Impaired miR-146a expression links subclinical inflammation and insulin resistance in type 2 diabetes. Mol Cell Biochem. 2011 351(1-2):197-205
44. Narasimhan S, Gokulakrishnan K, Ravikumar R, Mohan V, **Balasubramanyam M**. Association of hypoadiponectinemia with hypoglutathionemia in NAFLD subjects with and without type 2 diabetes. Disease Markers, 2011;29(5):213-21.

45. Narasimhan S, Gokulakrishnan K, Sampathkumar R, Farooq S, Ravikumar R, Mohan V, **Balasubramanyam M**. Oxidative stress is independently associated with non-alcoholic fatty liver disease (NAFLD) in subjects with and without type 2 diabetes. Clin Biochem. 2010 ;43(10-11):815-21

46. Balasubramanyam M, Adaikalakoteswari A, Sameermahmood Z, Mohan V. Biomarkers of oxidative stress: methods and measures of oxidative DNA damage (COMET assay) and telomere shortening. Methods Mol Biol. 2010; 610:245-61.

47. Gokulakrishnan K, Mohanavalli KT, Monickaraj F, Mohan V, **Balasubramanyam M**. Subclinical inflammation/oxidation as revealed by altered gene expression profiles in subjects with impaired glucose tolerance and Type 2 diabetes patients. Mol Cell Biochem. 2009; 324(1-2):173-81.

48. Srinivasan V, Tatu U, Mohan V, **Balasubramanyam M**. Molecular convergence of Hexosamine Biosynthetic Pathway (HBP) and ER stress leading to insulin resistance in L6 skeletal muscle cells. Mol Cell Biochem. 2009;328(1-2):217-24

49. Surendar J, Anuradha S, Berty Ashley, **Balasubramanyam M**, Aravindhan V, Rema M , Mohan V. Cystatin C and Cystatin GFR as markers of early renal disease in Asian Indian subjects with glucose intolerance (CURES-64). Metab Syndr Relat Disord. 2009;7(5):419-25.

50. K Gokulakrishnan, R Deepa, R Sampathkumar, **M Balasubramanyam**, V Mohan Association of Leukocyte count with varying degrees of glucose intolerance in Asian Indians - the Chennai Urban Rural Epidemiology Study (CURES-26). Metab Syndr Relat Disord. 2009;7(3):205-10.

51. Sameermahmood Z., **Balasubramanyam, M**., Saravanan, T. & Rema, M. Curcumin modulates SDF-1a/CXCR4-induced migration of human retinal endothelial cells (HRECs). Investig. Ophthalmol. Visual Sci., 49(8):3305-11, 2008.

52. Anitha B, Sampathkumar R, **Balasubramanyam M** & Rema, M. Advanced glycation index and its association with severity of diabetic retinopathy in type 2 diabetic subjects. J. Diabetes and its Complications, 22(4):261-6, 2008.

53. Srinivasan V, Sandhya N, Sampathkumar R, Farooq S, Mohan V & **Balasubramanyam, M.** Glutamine Fructose-6-phosphate amidotransferase (GFAT) gene expression and activity in patients with Type 2 diabetes: inter-relationships with hyperglycemia and oxidative stress. Clinical Biochemistry, 40:952-7, 2007.

54. **Balasubramanyam M**, Adaikalakoteswari, A, Finnymonickaraj, S. Mohan, V. Telomere shortening and metabolic/vascular diseases. Indian Journal of Medical Res. 125: 441-450, 2007.

55. Adaikalakoteswari A**,** Rema, M, Mohan, V. and **M. Balasubramanyam**. Oxidative DNA damage and augmentation of Poly (ADP-ribose) polymerase/Nuclear Factor-

kappa B signaling in patients with Type 2 diabetes and microangiopathy. International Journal of Biochemistry and Cell Biology, 39:1673-84, 2007.

56. Adaikalakoteswari A**, M. Balasubramanyam**, M, Ravikumar, R, Deepa. R. and Mohan, V. Association of telomere shortening with impaired glucose tolerance and diabetic macroangiopathy. Atherosclerosis, 195:83-9, 2007.
57. Adaikalakoteswari A**, M. Balasubramanyam**, M. Rema and V. Mohan. Differential gene expression of NADPH oxidase (p22phox) and hemoxygenase-1 in patients with type 2 diabetes and microangiopathy. Diabetic Medicine 23:666-674, 2006.
58. Premanand C, Rema M, Sameer Mahmood Z, Sujatha M, **Balasubramanyam M**. Effect of curcumin on proliferation of human retinal endothelial cells under invitro conditions. Invest Ophthalmol Vis Sci. 47:2179–2184, 2006.
59. Sampathkumar R, **Balasubramanaym M**, C.Tara, M.Rema, V.Mohan. Association of hypoglutathionemia with reduced Na^+/K^+ ATPase activity in type 2 diabetes and microangiopathy. Mol. Cell. Biochem, 282 (1-2):169-76, 2006.
60. Sampathkumar R, **Balasubramanyam M,** Sudarslal S, Rema M, Mohan V and Balaram P. Increased glutathionylated hemoglobin (HbSSG) in type 2 diabetes subjects with microangiopathy. Clinical Biochemistry, 38(10):892-9, 2005.
61. Adaikalakoteswari A, **Balasubramanyam M** and Mohan V. Telomere shortening occurs in patients with Type 2 diabetes. Diabetic Medicine, 22, 1151–1156, 2005.
62. Sampathkumar R, **Balasubramayam M**, Rema M, et al. A novel advanced glycation index (AGI) and its association with diabetes and microangiopathy. Metabolism, 58: 1004-1007, 2005.
63. **Balasubramanyam M,** Adaikalakoteswari A & Mohan V. Telomere shortening: A marker of atherosclerosis? Current Science, 87, 422-24, 2004.
64. Cho JH, **Balasubramanyam M,** Chernaya G, Gardner et al. Oligomycin inhibits store-operated channels by a mechanism independent of its effects on mitochondrial ATP. Biochemical Journal, 324:971-980, 1997.
65. Gardner JP, **Balasubramanyam M** & Studzinski GP. Up-regulation of Ca2+ influx mediated by store-operated channels in HL60 cells induced to differentiate by 1_, 25-dihydroxy-vitamin D3. Journal of Cellular Physiology, 172:284-295, 1997.
66. Gardner JP & **Balasubramanyam M.** Na^+/Ca^{2+} exchange in circulating blood cells. Annals of New York Academy of Sciences, 779:502-514, 1996. .
67. **Balasubramanyam M** & Gardner JP. Protein kinase C modulates cytosolic free calcium by stimulating calcium pump activity in Jurkat T cells. Cell Calcium, 18:526-541, 1995.

68. **Balasubramanyam M,** Rohowsky-Cochan C, Reeves JP and Gardner JP. Na+/Ca2+ exchange-mediated calcium entry in human peripheral blood lymphocytes. Journal of Clinical Investigation, 94:2002-2008, 1994.

69. **Balasubramanyam M,** Kimura M, Aviv A & Gardner, JP. Kinetics of calcium transport across the lymphocyte plasma membrane. American Journal of Physiology, 265:C321-C327, 1993.