# <u>Curriculum Vitae</u>

### Gopinath Meenakshisundaram

Dept of Molecular Nutrition,

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Email : <u>gopinath@cftri.res.in</u>, <u>gopienator@gmail.com</u> Date of Birth: 24/04/1979 Nationality: Indian

Areas of research: Investigation of exosome-like vesicles/nanoparticles from edible plants and its associated bio actives (phytochemicals, noncoding RNAs) as a bioavailable therapeutic strategy to treat chronic ulcers, Psoriasis and metabolic disorders such as anemia, anorexia and obesity.

## **Education and Employment History:**

Principal Scientist	July2018- Present
CFTRI, Mysore	
Research Scientist	Apr 2017- July 2018
Senior Research Fellow	Apr 2014-Mar 2017
Research fellow	Mar 2009-Mar 2014
Institute of Medical biology, Singapore	
Ph.D (Molecular Virology)	Aug 2002- Jan 2009
Indian Institute of Science, India.	
Masters in Biotechnology	July 2000- July 2002
Pondicherry University, India	

## **Publications:**

**26. Sriram Peringattu Kalarikkal and Gopinath M Sundaram (2021).** Edible plant derived exosomal microRNAs: Exploiting a cross kingdom regulatory mechanism for targeting SARS-CoV-2. **Toxicology and Applied Pharmacol.** (in press)

**25.** Lim Y.P., Lim S. K., Tbatabaeian, H., Lu, S.Y, Kang, S., Sundaram, G.M., Sampath P., Siew W.C and Hond, W. (2020) Hippo/MST blocks Breast cancer by downregulating WBP2 oncogene expression via miRNA processor Dicer. **Cell Death. Dis** , Vol 11: 669.

24. Sriram Peringattu Kalarikkal, Durga Prasad, Ravi Kasiappan, Sachin R Chaudhari and Gopinath M Sundaram\* (2020). A cost-effective polyethylene glycol based method for the isolation of functional edible nanoparticles from ginger. Scientific Reports , Mar 10; 10(1): 4456.

**23.** Wen Chiy Lew, **Gopinath M Sundaram.**, Shan Quah, Lum Guo Guang, Jonathan S. L. Tan., ...Birgitte Lane, Steven Thng, Prabha Sampath **(2020)** Belinostat resolves skin barrier defects in atopic dermatitis by targeting the dysregulated miR-335-SOX6 axis. **J. Allergy Clin Immunol** . Feb 21; S0091-6749(20)30259-1.

**22.** Kirti Gondkar, Krishna Patel, Shoba Krishnappa, Akkamahadevi Patil, Bipin Nair, **Gopinath M Sundaram**, Tan Tuan Zea, Prashanth Kumar **(2019).** E74 like ETS transcription factor 3 (ELF3) is a negative regulator of epithelial mesenchymal transition in bladder carcinoma. **Cancer Biomark. 25(2): 223-232** 

**21. Gopinath M Sundaram, Shan Quah and Prabha Sampath (2019).** Metastasis suppression and enhancement of anti-tumor immunity by targeting the FSTL1-DIP2A axis. **Transl. Cancer Res. 8( Suppl 2): S149-S151.** 

**20. Gopinath M Sundaram (2019).** Dietary non-coding RNAs from plants: Fairy tale or treasure? **Non-coding RNA Res. 4(2): 63-68.** 

**19. Gopinath M Sundaram, Shan Quah and Prabha Sampath. 2018.** Cancer; the dark side of wound healing. **FEBS J. 285(24): 4516-4534.** 

**18. Gopinath M Sundaram and Prabha Sampath. 2018.** Carcinoma cells reprogram the wound healing switch to promote metastasis. **Mol. Cell. Oncol. 5(6):** e1432255.

**17:** TingDong Yan, Wen Fong Ooi, Aditi Qamra, Alice Cheung, DongLiang Ma, **Gopinath Meenakshi Sundaram**, Chang Xu, ....Frederic A. Bard, Prabha Sampath, Vinay Tergaonkar, Eyleen Goh, Xuezhi Bi1, Melissa Jane Fullwood, Patrick Tan, and Shang Li. **2018.** HoxC5 and miR-615-3p target newly evolved genomic regions to repress hTERT and inhibit tumorigenesis. **Nature Communications. 9 (1): 100.** 

**16:** Federica Pascale, Srikanth Nama, Manish Muhuri, Shan Quah, Hisyam Ismail, Derryn Chan, **Gopinath M Sundaram**, Brian Burke and Prabha Sampath. **2018**. C/EBPβ mediates RNA polymerase III-driven transcription of oncomiR-138 in malignant gliomas. **Nucleic Acids Res. 46 (1): 336-349**.

**15. Gopinath M Sundaram \*. 2017.** Circulating non-coding RNA biomarkers for Diabetes Mellitus. **Curr. Res. Diabetes & Obes. J. 3 (5): 1-12. \* Corresponding author.** 

**14.** Tan, D.S.W., Chong F. T., Leong H.S., Toh D., Lau D.P., Kwang X.L., Zhang X., **Gopinath M Sundaram**, Tan G.S., Chang M.M., ....Skanderup A. J., Dasgupta R. and Gopalakrishna Iyer. **2017.** EGFR-AS1 long non-coding RNA mediates Epidermal Growth Factor Receptor addiction in squamous cell carcinoma. **Nature Medicine. 23 (10): 1167-1175.** 

**13. Gopinath M. Sundaram**, Hisyam M. Ismail... Vivek Tanavde, Vladimir Kuznetsov, E. Birgitte Lane, and Prabha Sampath. **2017.** EGF-driven micro circuitry hijacks microRNA-198/FSTL1 wound healing switch and steers a two pronged pathway towards metastasis. **J. Exp. Med. 214 (10): 1-12**.

**12. Gopinath M.Sundaram\*.**, Veera Bramha Chari. **2017** Molecular interplay of pro-inflammatory transcription factors and non-coding RNAs in esophageal squamous cell carcinoma. **Tumor Biology. 39 (6): 1-12 \* Corresponding author 11. Gopinath, M** and Shaila, M.S. **2015.** Evidence for N7 guanine methyl transferase activity encoded within the modular domain of RNA dependent RNA polymerase L of a Morbillivirus. **Virus Genes. 3 (13): 356-360.** 

**10**. Aliaksandr Yarmishyn, Arsen Batagov, Jovina Tan, **Gopinath Sundaram**, Prabha Sampath, Vladimir Kuznetsov and Igor Kurochkin. **2014**. HOXD-AS1 is a novel lncRNA encoded in HOXD cluster and a marker of neuroblastoma progression revealed via integrative analysis of non-coding transcriptome. **BMC genomics**, **15 (Suppl 9): S7**.

**9. Gopinath, M Sundaram** and Prabha Sampath. **2013** Regulation of context-specific gene expression by posttranscriptional switches. **Transcription Sep-Dec; 4(5): p213-216.** 

 Zacharias A. D. Pramono, Xuejun Mo, Emily Y. Gan, Ellen B. Lane, John E. Comon, Gopinath Sundaram, Prabha Sampath, Mark B. Y. Tang. 2013. Identification and elucidation of roles of microRNAs in atopic dermatitis. J. Dermatol. Sci. 69(2): e12.
Gopinath, M Sundaram\*, John E. A. Common\*, Felicia E. Gopal, Srikanta, S., Lakshman, K., Declan, P. Lunny, Thiam C. Lim, Vivek Tanavde, E. Birgitte Lane and Prabha Sampath. 2013 'See-saw' expression of microRNA-198 and FSTL1 from a single transcript in wound healing. Nature , 495: 103-106 (\* equal contribution)

6. Chan, X. H., Nama, S., Gopal, F., Rizk, P., Ramasamy, S., **Gopinath M Sundaram**.,Ow, G. S., Vladimirovna, I. and Sampath, P. **2012** Targeting glioma stem cells by functional inhibition of a prosurvival oncomiR-138 in malignanat gliomas. **Cell Reports. 2:1-12.** 

**5**. **Gopinath, M.,** Raju. S and Shaila, M.S. **2010** Host factor Ebp1 inhibits Rinderpest virus transcription in vivo. **Arch. Virol. 155: 455-462**.

**4**. **Gopinath**, **M** and Shaila, M. S. **2009.** RNA triphosphatase and guanylyl transferase activities are associated with the RNA polymerase protein L of Rinderpest virus. **J. Gen. Virol. 90: 1748-1756.** 

**3**. **Gopinath, M** and Shaila , M.S. **2008**. Recombinant L and P protein complex of Rinderpest virus catalyses mRNA synthesis in vitro. **Virus. Res.135(1): 150-154**.

**2**. Saikia, P., **Gopinath, M** and Shaila, M. S. **2008**. Phosphorylation status of the phosphoprotein P of Rinderpest virus modulates transcription and replication in vitro. **Arch. Virol. 153: 615-626**.

**1.** Afrin, F., Rajesh, R., Anam, K., **Gopinath**, **M**., Pal, S and Ali, N. **2002**. Characterization of Leishmania donovani antigens encapsulated in liposomes in inducing protective immunity in BALB/c mice. **Infect. Immun. 70: 6697-6706**.

#### About myself:

I received my M.Sc in Biotechnology from Pondicherry University in 2002. With CSIR-UGC fellowship, I joined MCB department, Indian Institute of Science for my Ph.D in 2002. Under the mentorship of Prof. M.S.Shaila, I focused on the transcription of RNA viruses, specifically investigating at how these cytoplasmic viruses post transcriptionally modify their mRNA (such as capping and methylation) to suit host ribosomal translation. In 2009, I joined Dr. Prabha Sampath lab, Institute of Medical Biology, Singapore as a post-doctoral fellow. My initial years of post doc were focused on non-coding RNAs in human embryonic stem cells and but later I shifted my focus on non-coding RNAs in epidermal wound healing and cancer. In 2017, I was promoted as a research scientist and I oversaw several projects related to investigating non-coding RNAs in inflammatory skin diseases. In July 2018, I joined the department of biochemistry, Central Food Technological Research Institute, as a principal scientist, primarily interested in ecofriendly and unexplored ways of increasing bioavailability of phytochemicals from edible plants via nanotechnology-based approach. The presence of exosome like nanovesicles in edible foods packed with bioactive, is a recent discovery. My lab currently focuses on harnessing its potential to treat a spectrum of diseases such as chronic ulcer, cancer and inflammatory skin diseases, with immense support from three PhD students.