

CURRICULUM VITAE



Name: Dr. Subramanian Krishnakumar, MD

Designation: Deputy Director-Research, Professor and Pathologist, DBT Associate,

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1. Education (Post-Graduation onwards & Professional Career)

S.No.	Institution Place	Degree Awarded	Year	Field of Study
1	Kilpauk Medical College , Madras university	MBBS	1994	Medicine, Surgery
2	Institute of Child Health and Hospital for children, Madras Medical College	Special Trainee	1995-96	Pediatric Hematology
3	Madras University, Chennai	MD	1996- 98	Pathology, hematology, clinical pathology and cytology
4	Doheny Eye Institute at Keck School of Medicine, University of Southern California (USA)	Research fellowship	2000	Ophthalmic Pathology
5	Cancer nanotechnology, DBT fellowship Missouri Univeristy , Columbia	Research fellowship	2007	Cancer nanotechnology

Position and Employment

S. No.	Institution Place	Position	From (Date)	To (date)
1	Vision Research Foundation, Sankara Nethralaya	Post Doc Fellow	April 1998	March 1999
2		Assistant Pathologist and Lecturer	April 1999	March 2005
3		Reader and Pathologist	April 2005	January 2008
4		Professor & Pathologist, In charge stem cell Laboratory	January 2008	Till dated
5		Deputy Director Research	January 2011	Till dated

3. Honors/Awards

Dr Krishnakumar was named as one of the top 10 authors with most publications in retinoblastoma research in the article

Gu X, Xie M, Jia R, Ge S. Publication Trends of Research on Retinoblastoma During 2001-2021: A 20-Year Bibliometric Analysis. *Front Med (Lausanne)*. 2021 May 21;8:675703

Gu et al.

Bibliometric Analysis of Retinoblastoma

TABLE 1 | Top 10 authors with the most publications in retinoblastoma research.

Author	Country	Affiliation	No. of publications	No. of citations
ABRAMSON DH	USA	Memorial Sloan Kettering Cancer Center	114	3,768
SHIELDS CL	USA	Jefferson University	103	3,738
SHIELDS JA	USA	Jefferson University	59	2,949
DUNKEL LJ	USA	Memorial Sloan Kettering Cancer Center	56	2,070
FRANCIS JH	USA	Memorial Sloan Kettering Cancer Center	49	655
GALLIE BL	Canada	University of Toronto	47	1,826
CHANTADA GL	Argentina	Hospital De Pediatria Doctor Juan Garrahan	43	1,354
KRISHNAKUMAR S	India	Sankara Nethralaya	43	589
RODRIGUEZ-GALINDO C	USA	St Jude Children S Research Hospital	42	1,827
WILSON MW	USA	University of Tennessee Health Science Center	42	1,171

Contributed 3 chapters in WHO Classification of Tumours of the Eye, WHO Classification of Tumours, 5th Edition, Volume 12

4. Professional Experience and Training relevant to the Project

Ophthalmic Pathology trained in USA. Reporting in Retinoblastoma for over 25 years. Has the expertise to undertake this project where my skills would be used for annotation the histopathology sections after scanning for machine learning.

I have handled big grants from the Department of Biotechnology for 4 crores and from RCUK for 3 crores in work package 3 and successfully completed it

Center of excellence-“Programme Support for Research on Retinoblastoma”- DBT

2 lead grants and 3 additional grants for co investigators

30 publications in total. DBT BT/01/CEIB/11/V/16: Budget 5 years 2017-2021. There were 15 investigators in the project and I was the team leader

5. Key achievements

Provide references or examples of five key achievements related to this application, which may include any of the following:

- i) Patents that have been applied/issued: Nil
- ii) peer-reviewed publications: 250

iii) Any other relevant achievement: 100 Publications in retinoblastoma: Started the area of Aptamers in the management of Retinoblastoma. Have been working on RNA and DNA aptamers and optimised Cell SELEX and NGS for DNA aptamer specific to retinoblastoma tumour cells and also to Cystatin C, where we are working to bring a POC for diabetic retinopathy

Former Ethics member, IIT Madras; Former Advisory Board Member, IIT Madras, Bioincubator.<https://bioincubator.iitm.ac.in/advisory.php>; Former Member, Genomics Committee , Department of Biotechnology, Govt of India

6.1 Publications (*Numbers only*) 267

Books: 3, Research Papers: 250; H index 36 and citations 4894

6.2 Selected peer-reviewed publications (*Ten best publications in chronological order*)

1. Maradani BS, Parameswaran S, Subramanian Krishnakumar. Development and characterization of DNA aptamer against Retinoblastoma by Cell-SELEX. *Sci Rep.* 2022 Sep 28;12(1):16178.
2. Gurudas S, Frudd K, Maheshwari JJ, Revathy YR, Sivaprasad S, Ramanathan SM, Pooleeswaran V, Prevost AT, Karatsai E, Halim S, Chandra S, Nderitu P, Conroy D, Krishnakumar S, Parameswaran S, Dharmalingam K, Ramasamy K, Raman R, Jones C,
3. Eleftheriadis H, Greenwood J, Turowski P. Multicenter Evaluation of Diagnostic Circulating Biomarkers to Detect Sight-Threatening Diabetic Retinopathy. *JAMA Ophthalmol.* 2022 Jun 1;140(6):587-597.
4. Ravishankar H, Mangani AS, Phoebe Moses GL, Mani SP, Parameswaran S, Khetan V, Ganesan S, Krishnakumar S. Serum exosomal miRNA as biomarkers for Retinoblastoma. *Exp Eye Res.* 2020 Oct;199:108184.
5. Raguraman R, Parameswaran S, Kanwar JR, Vasudevan M, Chitipothu S, Kanwar RK, Krishnakumar S. Gene expression profiling of tumor stroma interactions in retinoblastoma. *Exp Eye Res.* 2020 Aug;197:108067. doi: 10.1016/j.exer.2020.108067. Epub 2020 Jun 22. PMID: 32585195.
6. Ganesan B, Parameswaran S, Sharma A, Krishnakumar S. Clinical relevance of B7H3 expression in retinoblastoma. *Sci Rep.* 2020 Jun 23;10(1):10185.
7. Raguraman R, Parameswaran S, Kanwar JR, Khetan V, Rishi P, Kanwar RK, Krishnakumar S. Evidence of Tumour Microenvironment and Stromal Cellular Components in Retinoblastoma. *Ocul Oncol Pathol.* 2019 Feb;5(2):85-93.
8. Kalmodia S, Parameswaran S, Ganapathy K, Yang W, Barrow CJ, Kanwar JR, Roy K, Vasudevan M, Kulkarni K, Elchuri SV, Krishnakumar S. Characterization and Molecular Mechanism of Peptide-Conjugated Gold Nanoparticle Inhibiting p53-HDM2 Interaction in Retinoblastoma. *Mol Ther Nucleic Acids.* 2017 Dec 15;9:349-364.
9. Sivagurunathan S, Selvan LDN, Khan AA, **Parameswaran S**, Bhattacharjee H, Gogoi K, Gowda H, Keshava Prasad TS, Pandey A, Kumar SA, Rishi P, Rishi E, Ratra D, Bhende M, Janakiraman N, Biswas J, **Krishnakumar S** Proteomics-based approach for differentiation of age-related macular degeneration sub-types. *Indian J Ophthalmol.* 2021 Mar;69(3):647-654
10. Kalmodia S, Parameswaran S, Yang W, Barrow CJ, Krishnakumar S. Attenuated Total Reflectance Fourier Transform Infrared Spectroscopy: An analytical technique to understand therapeutic responses at the molecular level. *Sci Rep.* 2015 Nov 16;5:16649.

7. Research Support

7.1 Ongoing Research Projects

S. No.	Title of Project	Funding Agency	Amount	Date of sanction and Duration	Your Role
1	CDRC202208004 titled entitled "Rapid Cystatin C aptamers based assay for assessment of diabetic retinopathy.	Chellaram Foundation	53 lakhs	3 years from 2023-june to 2026 June	PI

7.2 Completed Research Projects (State only major projects of last 3 years)

S. No.	Title of Project	Funding Agency	Amount	Date of completion	Your Role
2	Development of Cell based systematic evolution of ligands by exponential enrichment (Cell-SELEX) for	DBT BT/PR15913/MED/30/1949/2017	50 lakhs	3 years 2019-2022	PI
2	Increasing eye research capacity and capabilities to tackle the burden of blindness in India: a research-based UK-India Collaboration (ORNATE INDIA) Funder: Medical Research Council (MRC	The ORNATE India Project: United Kingdom-India Research Collaboration to tackle visual impairment due to diabetic retinopathy	2.5 crores	5 years 2017-2021	Collaborator and Co investigator We identify blood based biomarkers in work package 3
3	Center of excellence- "Programme Support for Research on Retinoblastoma"- DBT 2 lead grants and 3 additional grants for co investigators 30 publications in total	DBT BT/01/CEIB/11/V/16	4,00,00,000	5 years 2017-2021	Team leader
4	Fluorescent Nanoprobes for Squamous cell carcinoma: A step towards developing a rapid tool for margin clearance	DBT BT/PR26757/NNT/28/1429/2017	25,00,000	3 years	Collaborating team with IIT Delhi

Place: Chennai

Signature of Investigator
Dr S. Krishnakumar