Shubham **Dutta, Ph.D.**

Scientist II

Massbiologics, University of Massachusetts Medical School

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About me

- Molecular Biologist with 10 years of experience in assay development
- Designing & executing high-throughput CRISPR-Cas9 knockout & RNAi screens in cancer and rare genetic diseases
- Experience in multicolor flow cytometry and flow panel design in blood
- Design, production, and purification of monoclonal antibodies
- Development and selection of stable clonal cell lines for protein production
- Designing & executing antibody-antigen interaction studies using Surface Plasmon Resonance and BiLayer Interferometry
- Supervising direct reports & working with cross-functional/ remote teams
- Actively serving as a Editorial Board Member & Reviewer of several peer-reviewed journals

Professional Experience

Scientist II, Massbiologics, University of Massachusetts Medical School

2020 - Present

- Engineering novel antibodies against cell-surface markers in Neotropic non-human primates
- Generation and screening of hybridomas
- Production, purification, and quality testing of antibodies and proteins
- Generation of stable antibody producing cell lines
- High-throughput screening and identification of top expression clones
- Multicolor flow cytometry and panel generation for primate blood
- Managing research associates

Scientist II, Totient Inc.

2018 - 2020

- Served as cell and molecular biology lead for oncology drug discovery programs
- Developed strategies to simultaneously knockout two genes using CRISPR-Cas9
- Experience with preparation of high-quality whole genome lentiviral sgRNA particles
- Identification of targets using CRISPR mediated whole genome knockout screen on multiple cell lines
- Identification of targets for recombinant antibodies using Protein arrays, western blotting, LC-MS, ELISA and immunofluorescence
- Worked with CROs with for special assays including 3D cell culture, Mass Spectrometry, and Surface Plasmon Resonance (SPR)
- Managed one direct report and one matrix reports in CROs

Post-doctoral Associate, University of Massachusetts Medical School

2018

- Developing a CRISPR screen to identify novel epigenetic regulators of EWS-FLI1 fusion oncoprotein which causes Ewing's sarcoma
- Executing genome wide shRNA/ RNAi and proteomic screens to identify transcription factors involved in X-chromosome inactivation
- Genome editing by CRISPR/Cas9 for specific projects in the lab
- Managed one intern and two junior graduate students

Education

University of Massachusetts Medical School — *Worcester, MA, USA*

Doctor of Philosophy, Biomedical Sciences — *09/2011-06/2018*

University of Calcutta — *Calcutta, West Bengal, India*

Master of Science, Biophysics and Molecular Biology — *06/2008-05/2010*

University of Calcutta — *Calcutta, West Bengal, India*

Bachelor of Science, Microbiology — *06/2005-05/2008*

Publications

1. Banerjee, A., Malonia, S. K., & Dutta, S. (2021). Frontiers of CRISPR-Cas9 for cancer research and therapy. *Journal of Exploratory Research in Pharmacology*, *6*(3), 96–104.
2. Dutta, S., Mana-Capelli, S., Paramasivam, M., Dasgupta, I., Cirka, H., Billiar, K., & McCollum, D. (2018). TRIP6 inhibits hippo signaling in response to tension at adherens junctions. *EMBO Reports*, *19*(2), 337–350.
3. Mana-Capelli, S., Paramasivam, M., Dutta, S., & McCollum, D. (2014). Angiomotins link f-actin architecture to hippo pathway signaling. *Molecular Biology of the Cell*, *25*(10), 1676–1685.
4. Bindu, S., Pal, C., Dey, S., Goyal, M., Alam, A., Iqbal, M. S., Dutta, S., Sarkar, S., Kumar, R., Maity, P.others. (2015). Translocation of heme oxygenase-1 to mitochondria is a novel cytoprotective mechanism against non-steroidal anti-inflammatory drug-induced mitochondrial oxidative stress, apoptosis, and gastric mucosal injury. *Journal of Biological Chemistry*, *290*(22), 13667–13668.