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### RESEARCH AREA:

To study the novel biomarkers for human lymphatic filariasis

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### RESEARCH INTEREST:

#### To study the novel biomarkers for human lymphatic filariasis

Lymphatic filariasis is a debilitating mosquito-borne helminthiasis caused by the parasites *Wuchereria bancrofti*, *Brugia malayi* and *B. timori*. Nearly 80% of the infection in the endemic areas is due to *W. bancrofti* alone. Although Diethylcarbamazine (DEC), Ivermectin and Albendazole are the commonly used drugs to treat lymphatic filariasis, they have the inherent disadvantage of requiring repeated and prolonged treatment for years leading to potential drug resistance. Despite the major advantages, these chemotherapeutic agents are also primarily macrofilaricidal with the associated hypersensitivity reaction due to dead or dying adult worms, which could worsen the lymphatic pathology. Therefore, alternative strategies like vaccination could be beneficial along with chemotherapy and vector control in eradicating filariasis from endemic areas. My lab is interested in identifying some of the novel biomarkers related to diagnosis and recombinant vaccines for lymphatic filariasis.

### PUBLICATIONS

- 1. Setty Balakrishnan Anand**, Munirathinam Gnanasekar, Mani Thangadurai, Prince R. Prabhu, Perumal Kaliraj, Kalyanasundaram Ramaswamy (2007) Immune response studies with *Wuchereria bancrofti* Vespinal allergen homologue (WbVAH) in human lymphatic filariasis. *Parasitology Research* Sep; 101(4): 981-8
2. Munirathinam Gnanasekar, **Setty Balakrishnan Anand** and Kalyanasundaram Ramaswamy (2007) Identification and cloning of a novel tetraspanin (TSP) homologue from *Brugia malayi*. *DNA sequence* Jul 20; : 1
- 3. Setty Balakrishnan Anand**, Veerabhadran Anandharaman, Vadivel Murugan, Prince Rajiah Prabhu, Maryada Venkata Rami Reddy, and Perumal Kaliraj. Comparison of Immunogenicity, protective efficacy of Single and Cocktail DNA vaccine of *Brugia malayi* Abundant Larval Transcript(ALT-2) and Thioredoxin peroxidase (TPX) in Mice : *Acta Tropica*: 2008:Aug; 107(2): 106-12.
4. Munirathinam Gnanasekar, **Setty Balakrishnan Anand**, Thomas. B.Nutman, Kalyanasundaram Ramaswamy. Identification and cloning of a novel small heat shock protein 12.6 (HSP12.6) from *Brugia malayi* as a human IL-10 receptor binding protein: *Molecular and Biochemical Parasitology*: Jun; 2008: 159(2); 98-103.

5. Munirathinam Gnanasekar, **Setty Balakrishnan Anand**, Sara Lustigman, Thomas. B.Nutman and Kalyanasundaram Ramaswamy. Studies on BmIL-5, a novel human IL-5 receptor binding protein from the human filarial parasite *Brugia malayi* (communicated).

6. **Setty Balakrishnan Anand**, K.N.Krithika, V.Murugan, M.V.R.Reddy, P.Kaliraj. Combination of two filarial vaccine candidates ALT and VAH enhances immunoprotective response in Gerbils and humans. (communicated)