



Joy of Learning Science - boundless opportunities

Dr. Viswanadham Duppatla
AVP, IKP Knowledge Park
Genome Valley, Hyderabad



Women in Science - My daily inspiration



Ms. Deepanwita Chattopadhyay
Chairman and CEO
IKP Knowledge Park



Dr. Renu Swarup
Secretary, Dept of Biotechnology
Ministry of S & T, GOI



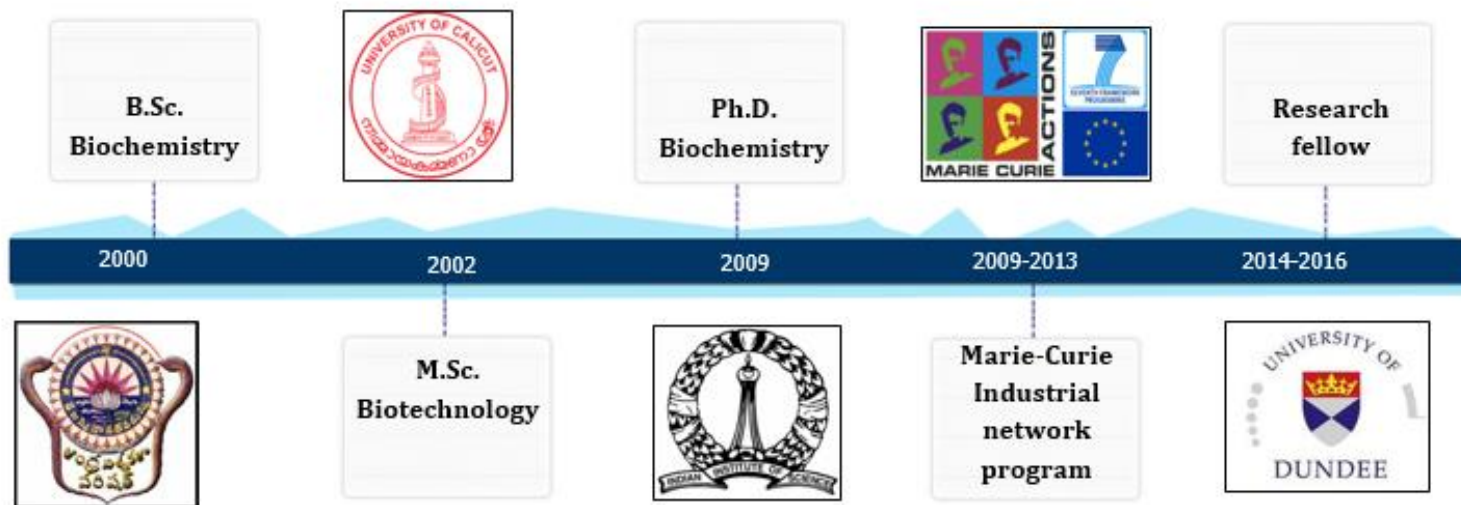
Dr. Kiran Mazumdar-Shaw
Executive Chairperson and Founder
Biocon Limited & Biocon Biologics Limited



“The secret of getting ahead is getting started”

Mark Twain

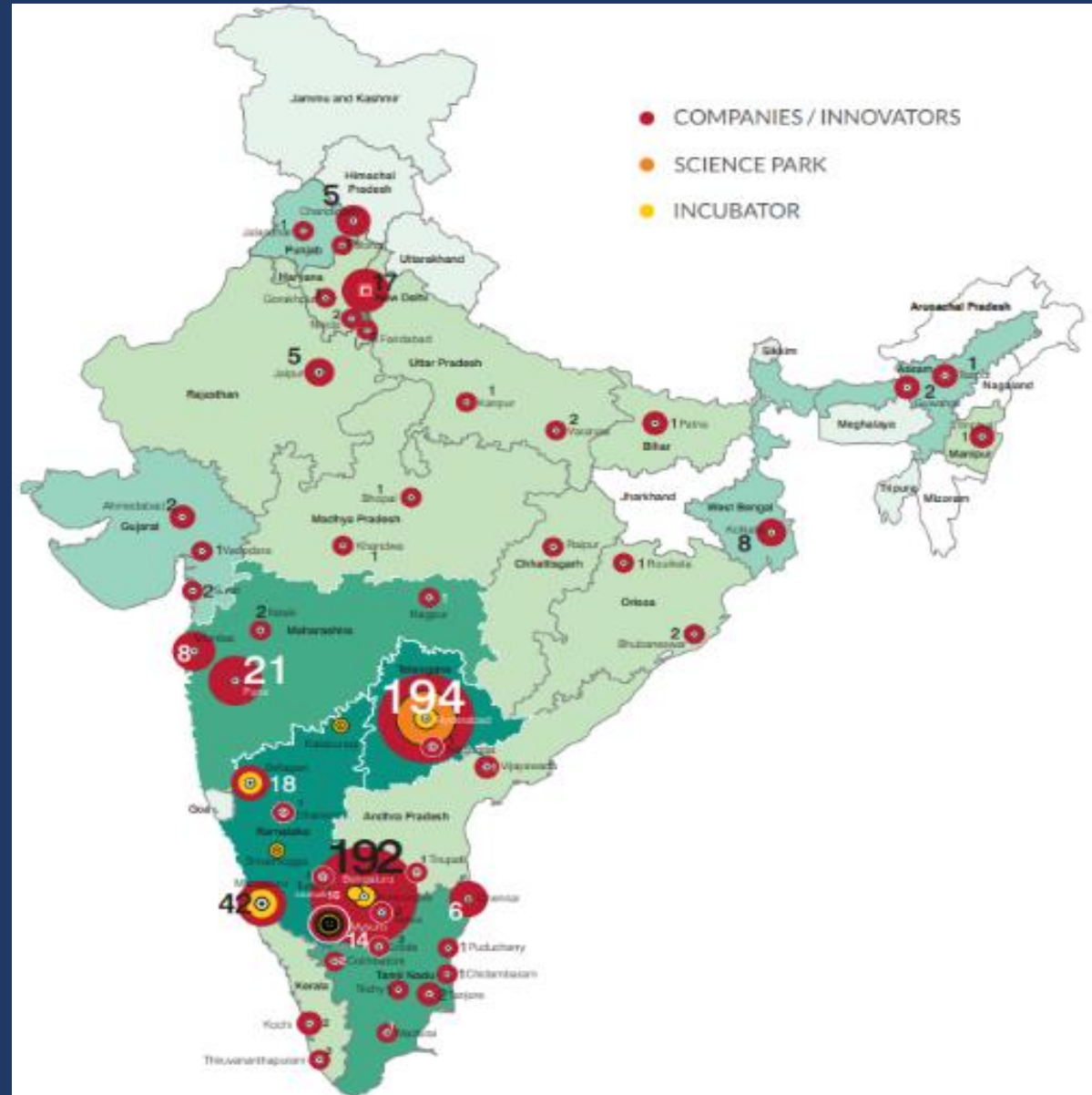
Career Timeline



IKP Knowledge Park
Sustainability Innovation Centre
CATALYST
Life Science Incubator

IKP EDEN
BioNEST
K-tech Innovation Hub
Jalahalli
Mysuru
Mangaluru
Shivamogga
Belagavi

Pan-India:
IKP PRIME
BRIC
India Innovation Fund



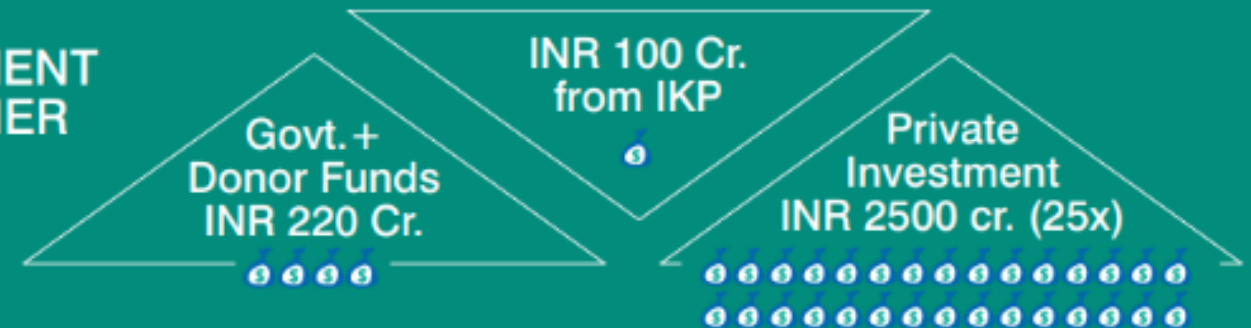
IKP IMPACT



INNOVATOR SUPPORT

- Touched 8,000+ innovators
- ~700 companies & innovations
- 380+ innovations funded

INVESTMENT MULTIPLIER



JOBS GENERATED Direct: 7,500+ | Indirect: 25,000+

SINC, IKP Knowledge Park

Plug and play lab space



Office space



Green House



Growth Chambers



LSI SINC Discovery Labs





Social Innovation Programme for Products
Affordable & Relevant to Societal Health



Establishment of **SPARSH CENTRES** for **Social Innovation Immersion**

SPARSH is the social innovation program of BIRAC aimed towards finding innovative solutions to society's most pressing social problems through biotechnological interventions.

SIIP (Social Innovation Immersion Program) is one of the components of SPARSH scheme under which a pool of "Social Innovators (SIIP Fellows)" is being created who could identify and address the social problems by biotechnological means. The program shall be implemented through SPARSH Centres.

Under the present call, proposals are invited from interested agencies for establishment of SPARSH Centres in following thematic areas:



**Maternal and
Child Health**



**Ageing
and Health**



**Food
and Nutrition**



**Waste
to Value**



**Combating
environmental
pollution**



**Agri-Tech
(including reducing
post-harvest losses)**

BIRAC SPARSH Fellowship

IKP Focus areas

Maternal and Child Health
Food and Nutrition

Eligibility Criteria

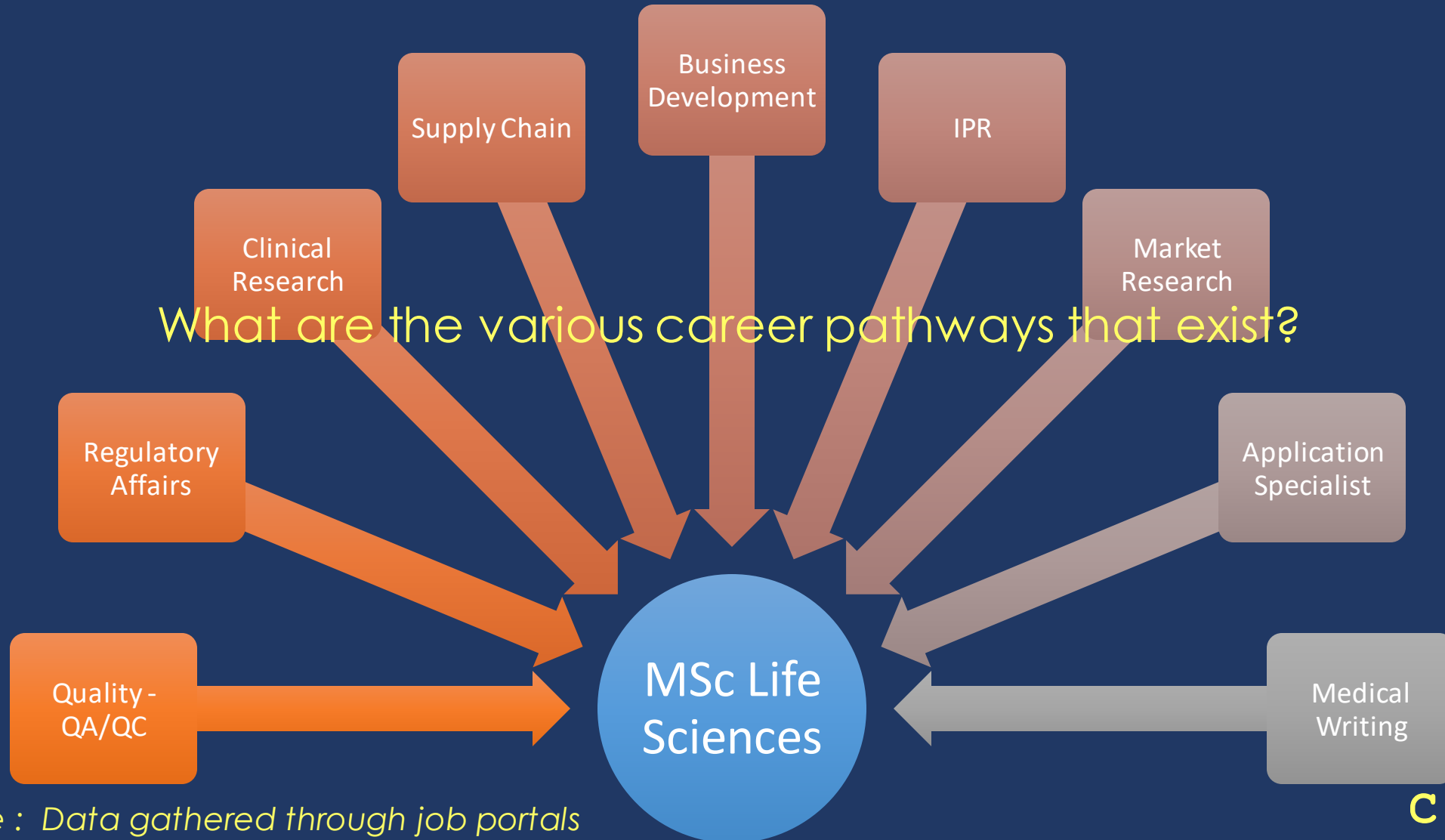
35 years of age or lesser
Science graduate (Biotech, Engineering)

Benefits

Monthly stipend of Rs. 50,000/- for 18 months
Mini kick start grant of Rs. 5,00,000/-
Mentoring by Experts



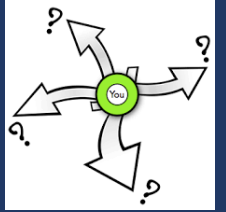
Dipstick Survey on Leaders with MSc Degree



* Source : Data gathered through job portals

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R&D: Relevant Sectors



Pharma

- BMS
- Lupin
- Glenmark

CRO's

- Syngene
- Aurigene
- Advinus
- GVK Bio
- Chembiotek
- Jubilant
- Suven Life

Biopharma

- Dr.Reddys
- Biocon
- Lupin
- Intas
- Pfizer Biologics
- Vaccines:
 - Serum Inst.
 - Bharat Biotech
 - IIL
 - Shantha Biotech
 - Hilleman Labs
 - IAVI

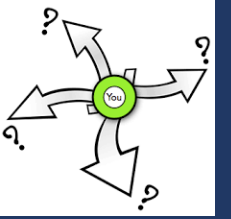
Industrial Biotech

- Novozymes
- Praj Industries
- Tata Chemicals
- Advanced Enzymes
- Nagarjuna Biotech
- Reliance Industries

Molecular Diagnostics NGS/Bioinformatics

- | | |
|--|---|
| <ul style="list-style-type: none"> • Medgenome • Strand • Oncquest • Xcyton • Mapmygenome • Qiagen • Eurofins | <ul style="list-style-type: none"> • Genotypic • Xcelris • Eurofins • Bioserve • Medgenome • Bionivid • Nucleome Informatics • Leucine Richbio • Interpretomics • Excelra • Samsung • IBM • Cognizant • TCS Advanced Research |
|--|---|

Career Pathways: Additional



Application Specialists Product Managers

- GE
- Pall
- BioRad
- ThermoFisher
- Beckton Dickinson
- Agilent
- Sartorius Stedium
- SciEx



Writing: Medical/Scientific KPO/Journals/Pop.Science.

- Novartis
- GSK
- Quintiles IMS
- Parexel
- Sciformix
- Indegene
- Cactus Communications
- Journals: Nature, Springer



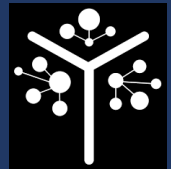
Intellectual Property Corporate/Law firms/KPO

- Lakshmikumaran & Sridharan
- K&S Partners
- Evalueserve
- United Lex
- Sagacious
- Dolcera
- SmartAnalyst



Market Intelligence

- Frost & Sullivan
- Thomson Reuters
- Global Data
- Evalueserve
- Sagacious
- Excelra
- Tracxn
- DRG Analytics



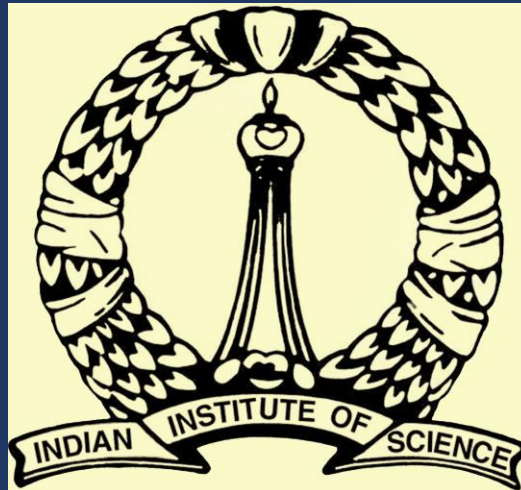
Incubator Manager

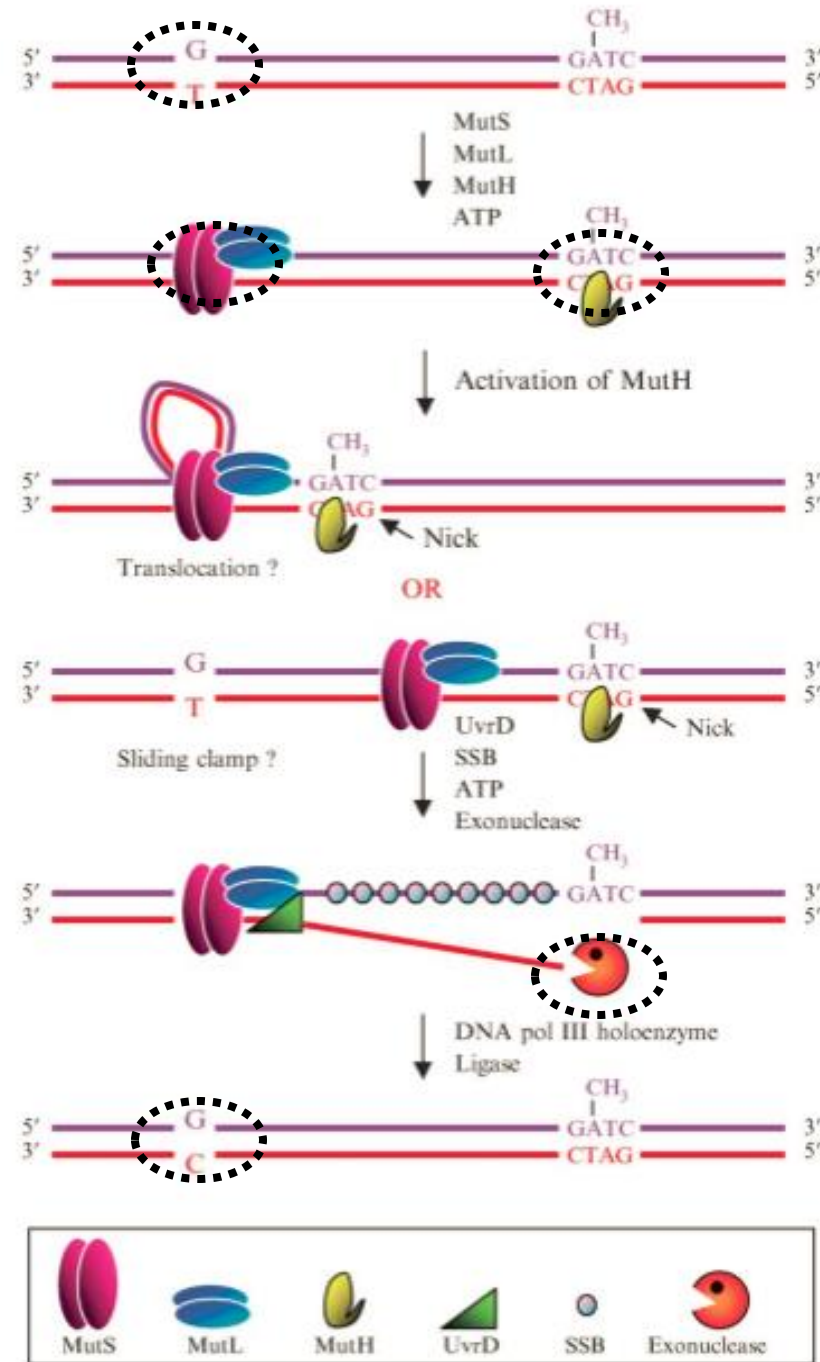
- IKP
- C-CAMP
- Bangalore Bioinnovation
- KIIT - TBI
- All leading Academic Inst.

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DNA Mismatch repair - Nicking endonucleases
of *Haemophilus Influenzae* and *Neisseria gonorrhoeae*

Dr. Viswanadham Duppatla
Indian institute of Science, Bangalore





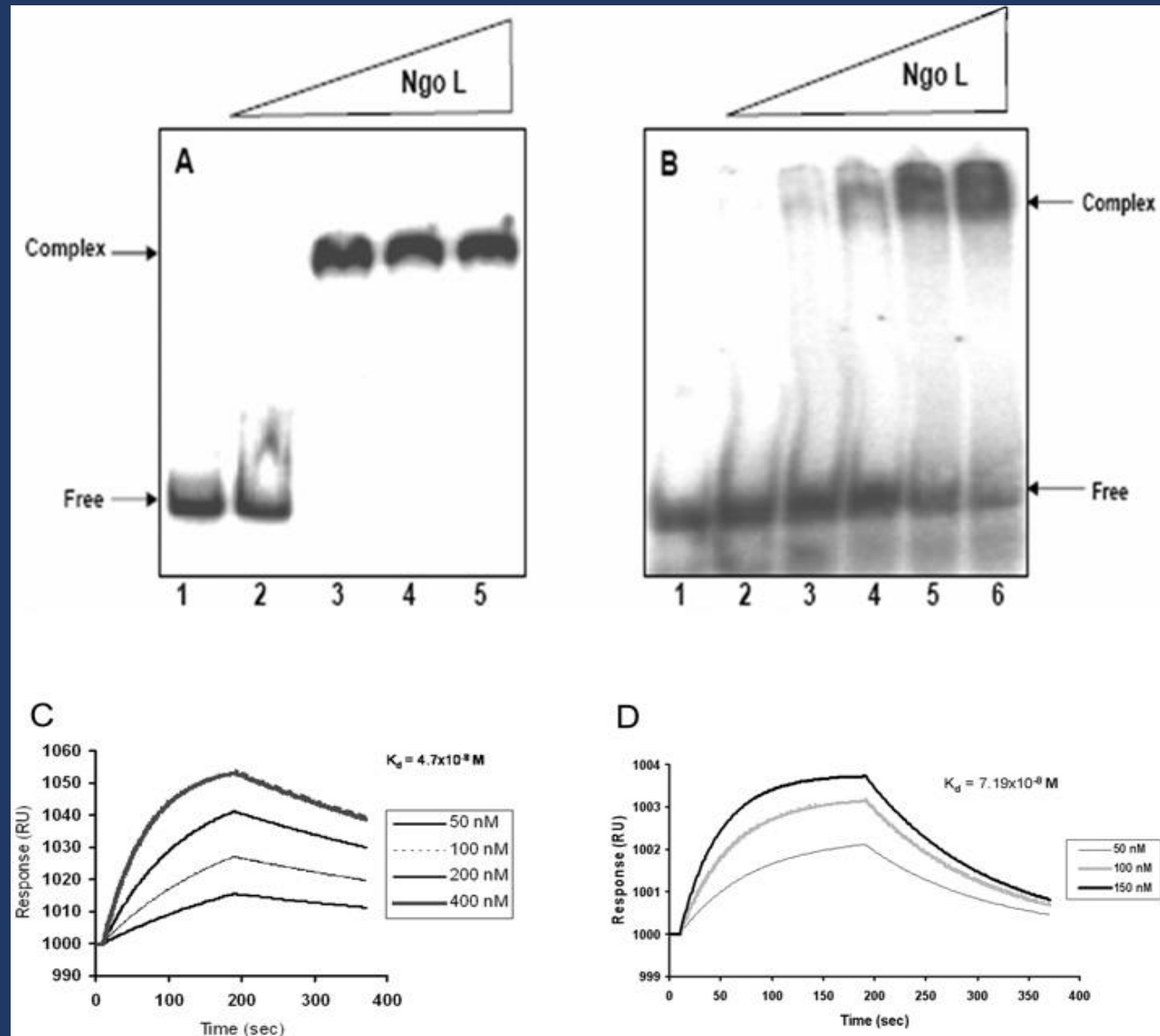
Mismatch

Recognition and Nicking

Unwinding of Nicked strand

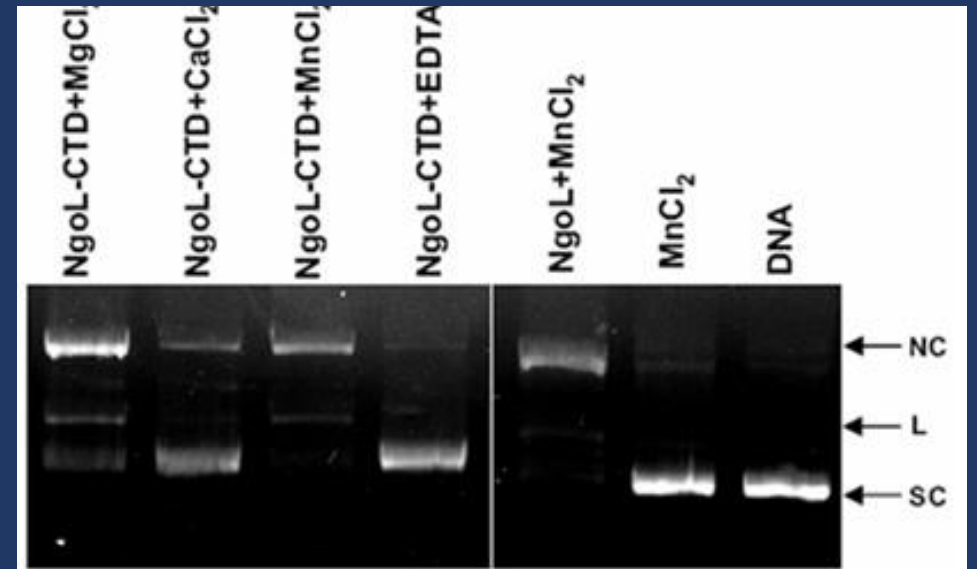
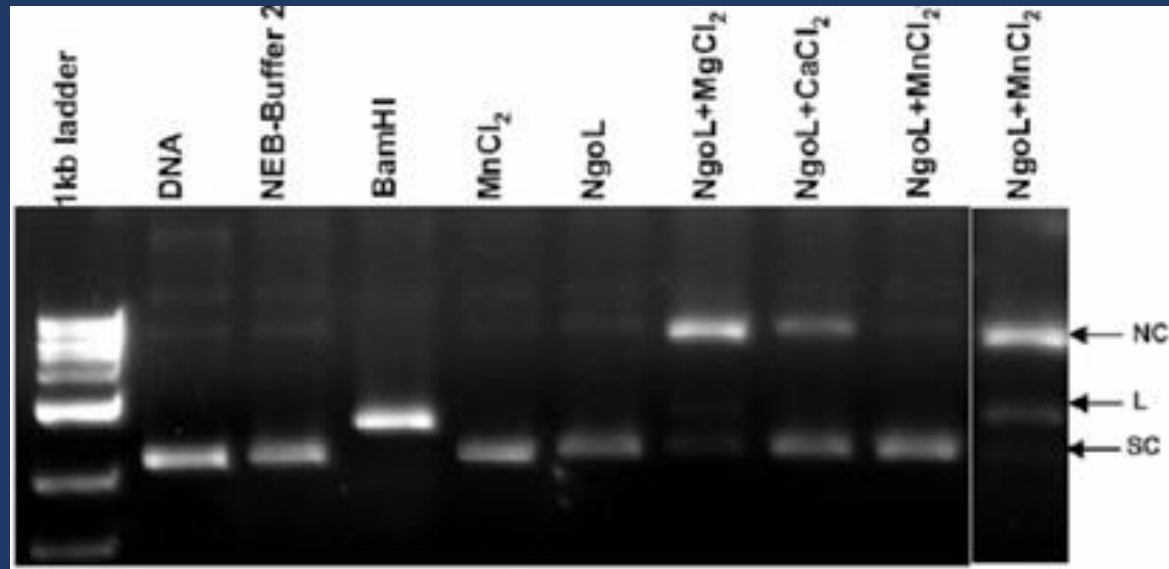
Exonucleolytic removal

Gap filling and Ligation



DNA-binding properties of NgoL and NgoL-CTD

The C-terminal domain is sufficient for endonuclease activity of *Neisseria gonorrhoeae* MutL

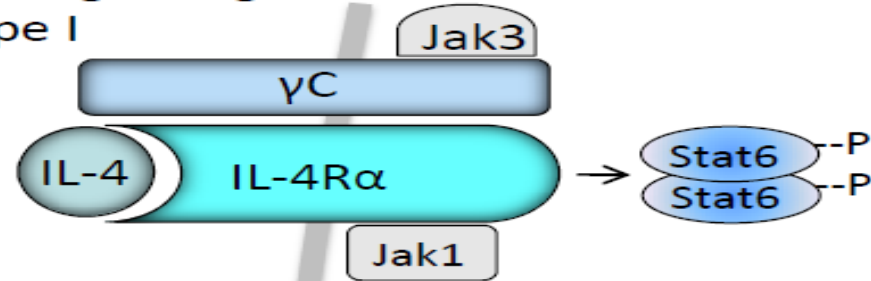


Complex chemistry helping prevent
biological interactions that could reduce diseases.
Thanks to **numerical accuracies** achieved through
physical measurement of interactions.

IL-4/IL-13 signaling

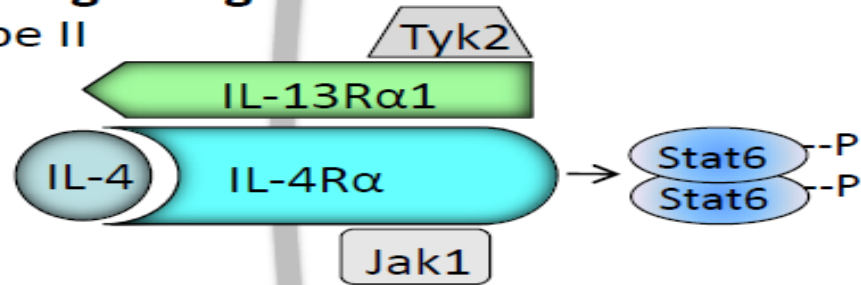
IL-4 signaling:

Type I



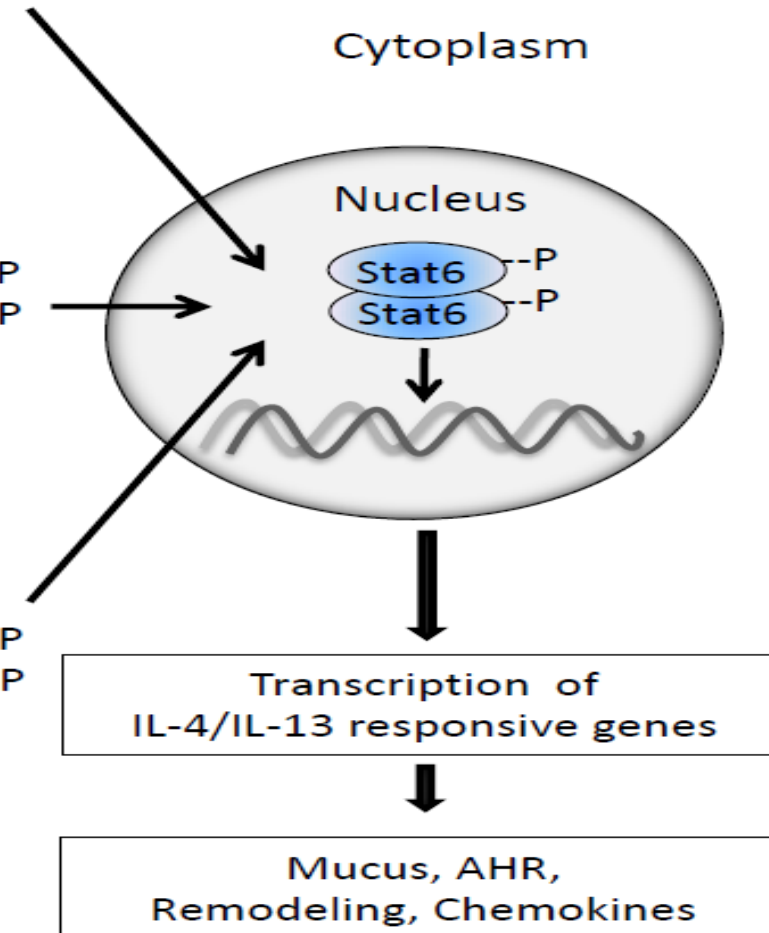
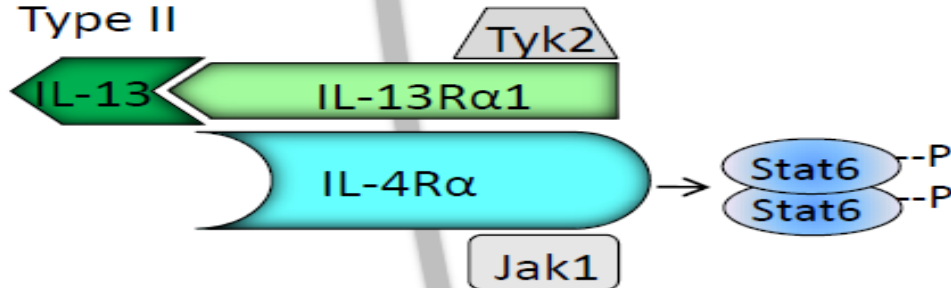
IL-4 signaling:

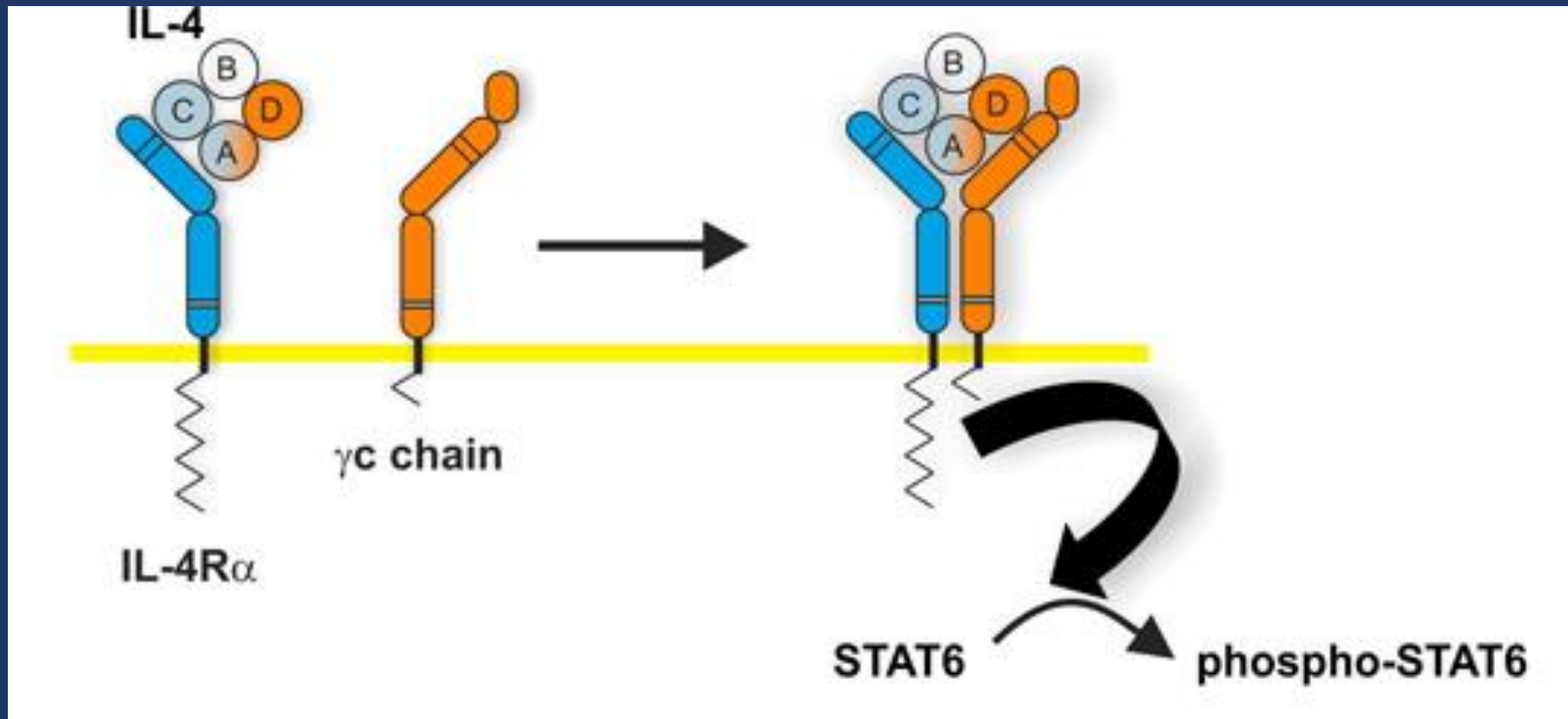
Type II



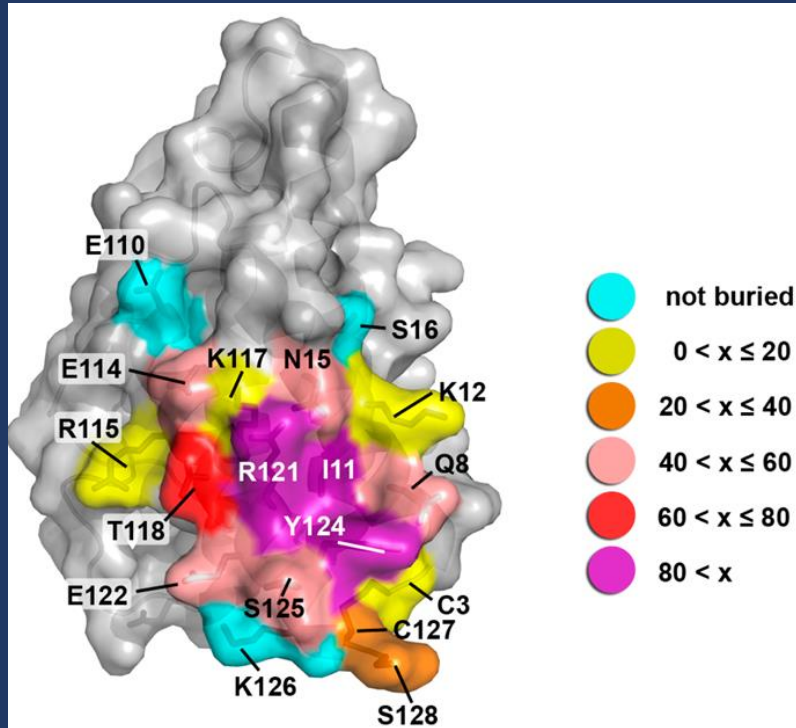
IL-13-signaling:

Type II

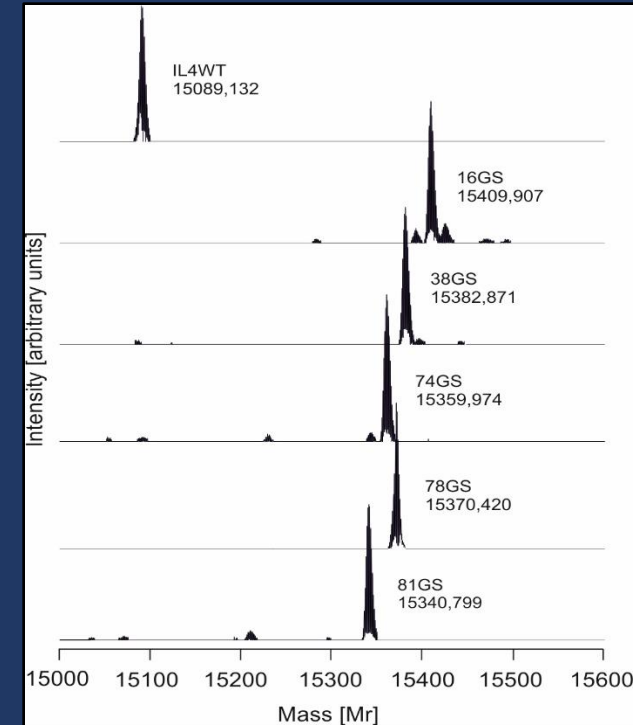




Need for Novel Refolding method

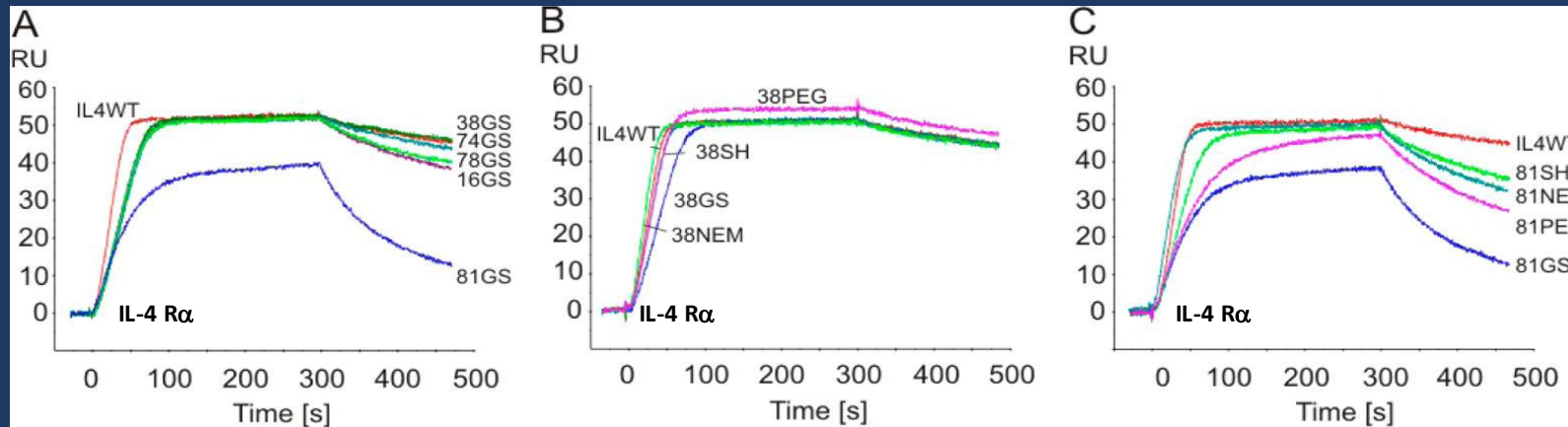


The area of IL-4 surface residues buried in the contact with receptor

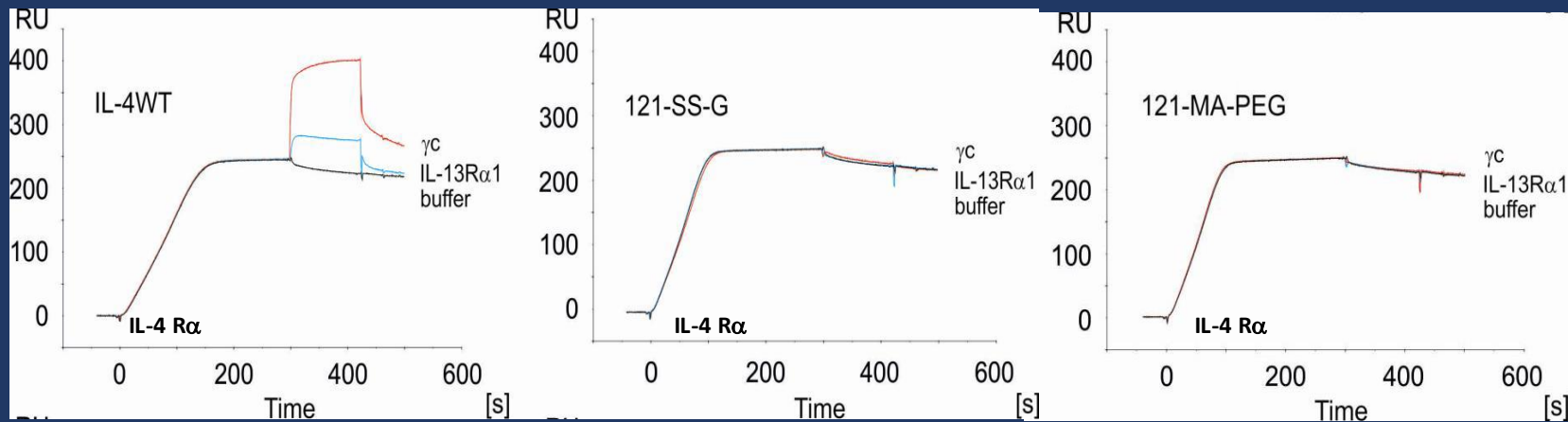


Novel refolding strategy to protect free thiol group

Biacore analysis of IL-4 interactions with its receptors

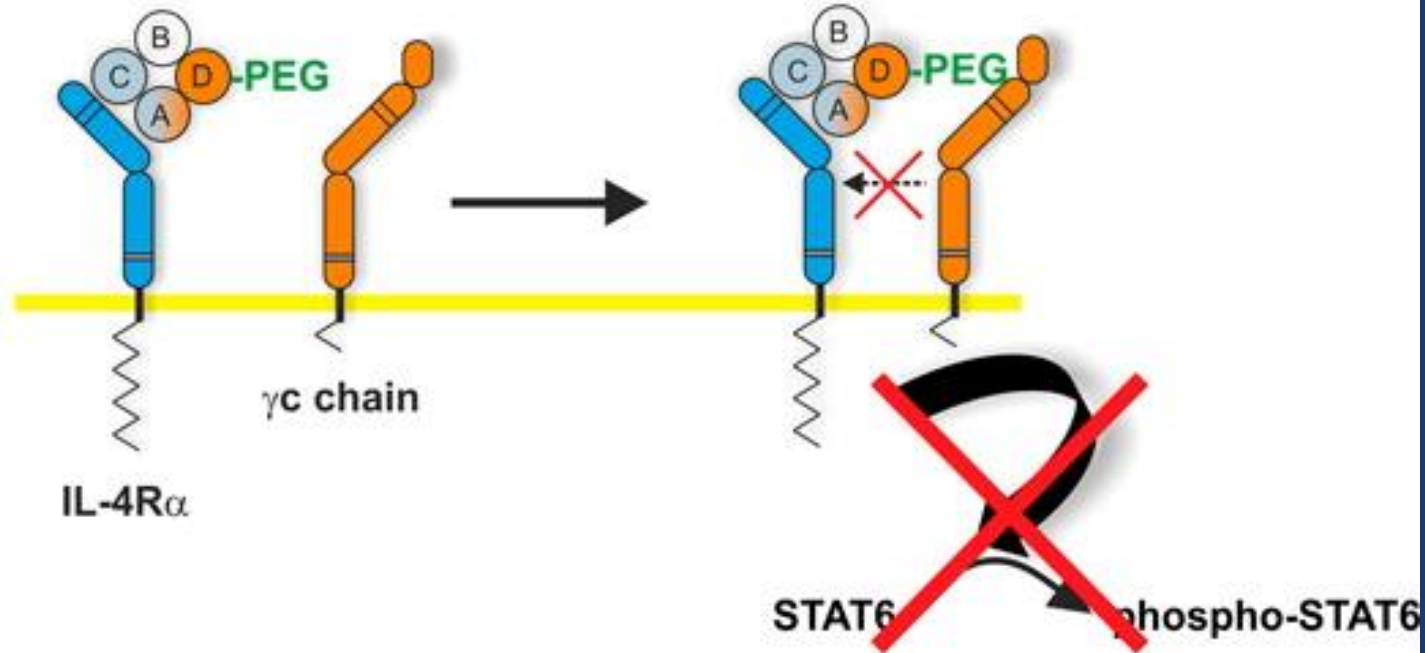


Most of the muteins interact with IL-4 Rα normally



IL-4 121C analogues do not interact with IL-13Rα1 and γC receptors

modified IL-4



✧ Novel refolding method

✧ Enzymatic deglutathionylation

✧ Site specific modification

✧ Loss of selective receptor binding

✧ Antagonistic to IL-4 and IL-13 biological activities

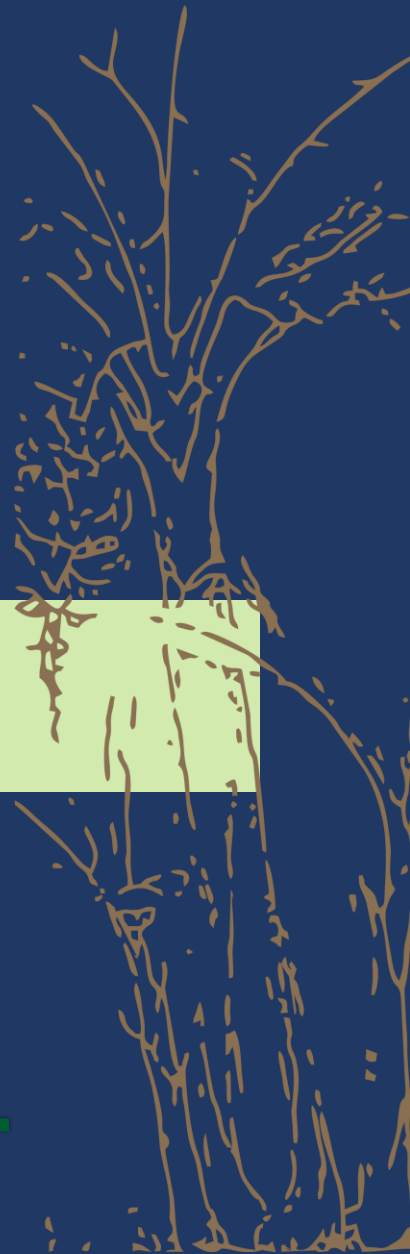
Can we improve lives of everyone around us?



A First of its kind Gel-coated organic disposable shaving brush.

Bodha is a Single Use Product.

Its Simple, Sustainable, Affordable and biodegradable.



SOLUTION - BODHA



BANANA STEM

Bristles of Bodha organic shaving brush are made from plant fibers having anti-microbial, Anti allergenic properties and is safe for disposal.



Fiber processed
into bristles

Gel coated brush
dipped in water.



Using Bodha brush
[with out any cream]

Burdened healthcare system

Can we add hospital beds quickly?

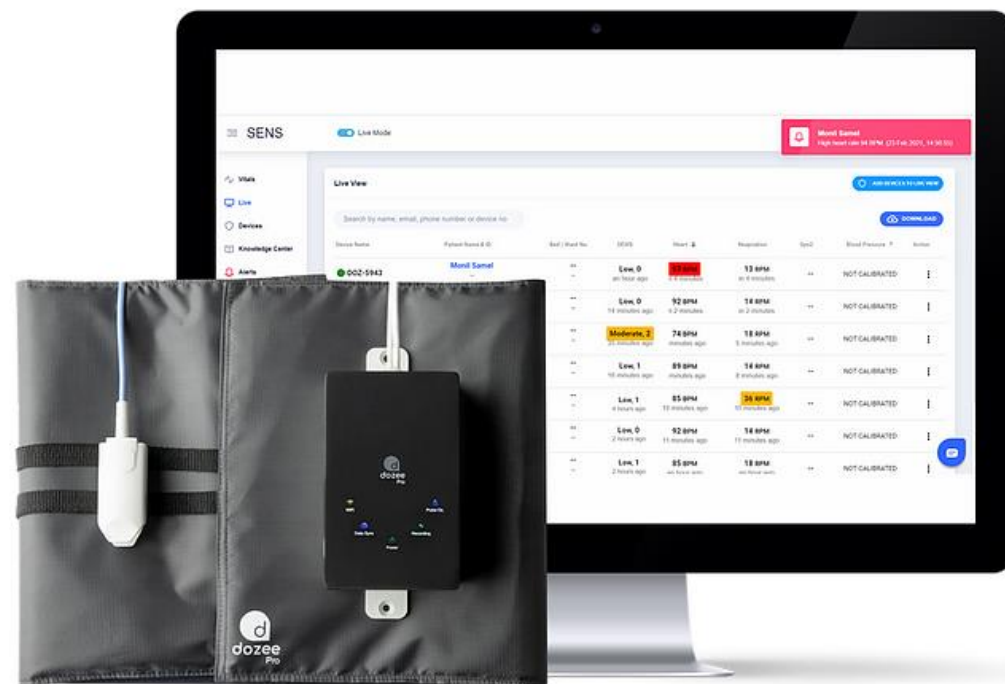
Can we help nurses?

Can we help doctors focus on critical patients?



Contactless patient monitoring & Early Warning System for Step down ICU & HDU units

Dozee is the pioneer in contactless, continuous remote patient monitoring (RPM) in hospitals & at home, delivering unparalleled patient safety & maximize utilization of ICU beds.

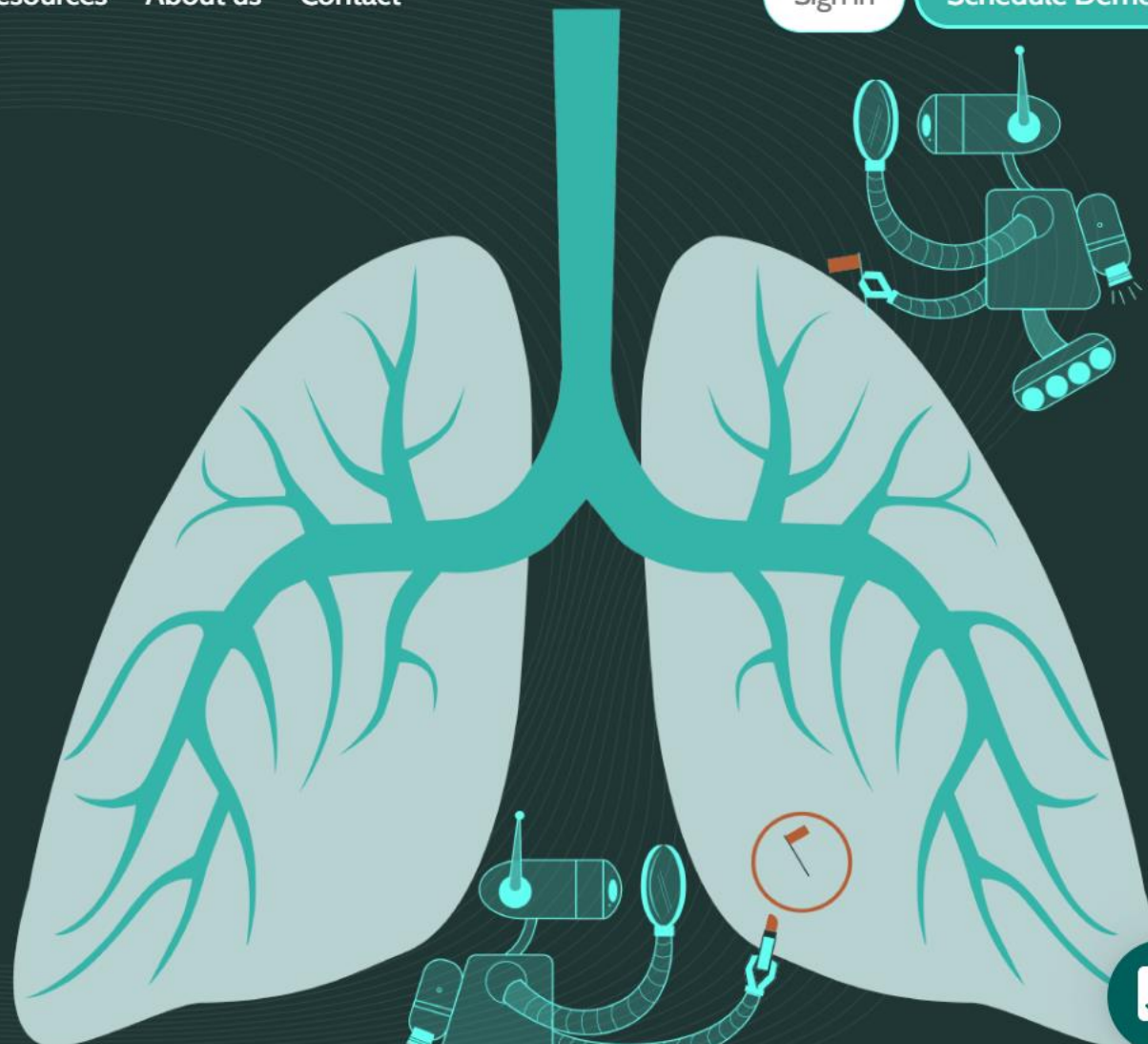
[Watch Video](#)

Burdened healthcare system

Can we get the radiology reports quickly?
(CT Scan/ X- ray)

The Future of Lung and Respiratory Care is here

LungIQ uses artificial intelligence to generate visual, quantitative reports from chest CT scans, enabling quick and accurate diagnosis of chest conditions

[More details](#)[Schedule Demo](#)

Burdened healthcare system

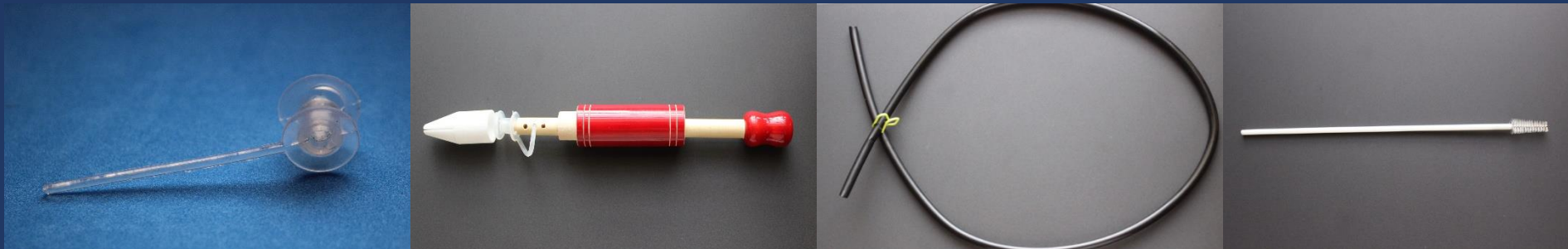
Can we get provide better universal healthcare?

Dr. Vishal Rao - Surgeon in collaboration with an Artist!

Journey - 80,000 Rs Imported no guarantee device to nominal cost Guaranteed device



More than 120 Patients successfully operated



Components of AUM Voice Prosthesis Kit



PROMOTED BY



WITH SUPPORT FROM



USAID
FROM THE AMERICAN PEOPLE

BILL & MELINDA GATES foundation

Department
for International
Development



MSME
MICRO, SMALL & MEDIUM ENTERPRISES



Thanks to all my teachers and students

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