



SBC

NEWSLETTER



Vol. No. 98 June 2009

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MESSAGE

Dear Colleagues,

The Society of Biological Chemists (India) is just one year shy of being eighty years old. We have aged gracefully but need a few injections of vitality of different kinds. We need more young members, more communication, more assistance from and involvement of the local chapters, and, of course, more funds.

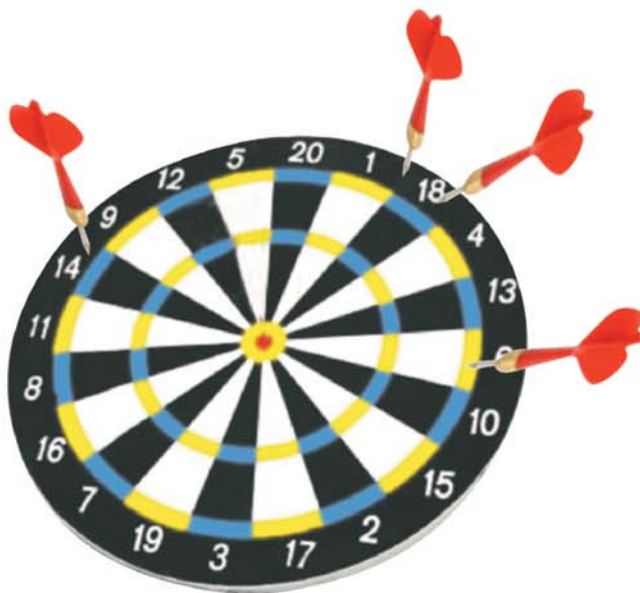
The meeting at Chennai went off well even though the dates clashed with some other big sounding events organized at IIT, Chennai at the same time as our meeting. The General Body Meeting was peaceful, mainly because there were so few of us attending it; something we should like to change. Responsibility is entirely our's and I hope that in the General Body Meeting we have many more participants.

The annual meeting of the year 2009 will be held at National Center for Cell Sciences, Pune on 30 October-1 November 2009. Please block these dates, I hope that local chapters will gear up and organize events they want to and get back to us with more rigour than before. I will try to contact/visit as many local chapters as I can before the Annual General Meeting.

Dr. V.S. Chauhan
President, SBC (I)



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78TH ANNUAL MEETING OF THE SOCIETY OF BIOLOGICAL CHEMISTS (INDIA) NATIONAL CENTRE FOR CELL SCIENCE (NCCS), PUNE, OCTOBER 30 - NOVEMBER 1, 2009

Time : The meeting is scheduled to be held during October 30 - November 1, 2009.
Venue : Yeshwantrao Chavan Academy of Development Administration (YASHADA)
Raj Bhavan Complex, Baner Road, Pune - 411007

For further information please contact:

Dr. Gopal C. Kundu

The Organising Secretary

National Centre for Cell Science, Ganeshkhind Road, Pune-411007

Phone: (91)-20-2570-8103/8151; Fax: (91)-20-2569-2259

Email: convenersbc2009@nccs.res.in; Web: <http://www.nccs.res.in/sbc2009.html>

IMPORTANT DEADLINES

Last date for submission of Abstracts August 01, 2009	Information of Abstracts acceptance August 15, 2009	Last date for payment of Registration fee August 31, 2009.
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PREPARATION OF ABSTRACT

- Abstracts related to all topics of Biochemistry are welcome.
- Length of the abstract should be 300 words or less.
- Presenting author's name should be in Bold or underlined.
- All Greek characters should be inserted using the "Symbol..." command in "Insert" menu of the Microsoft Word.
- It is mandatory to submit the abstract using the Registration-cum-Abstract form only by email and it should reach us by August 1, 2009.
- After acceptance, you will receive an Email confirmation from the organizers by August 15, 2009.
- After you receive the confirmation, the Registration-cum-Abstract form can be printed, signed and mailed to the organizers with necessary payments.

Specific instructions:

- The Registration-cum-Abstract form is based on Microsoft Excel. Make your abstract in Microsoft Word, copy and paste the same in the abstract box provided in the registration form.
- In case you are not familiar with Microsoft Excel, click into the fx box (top right) or in the abstract box.
- At this stage, you will see two hundred words or 1050 characters of your abstract only in the box - Nothing to worry.
- If you want to be sure whether your abstract is complete or not, you can simply double click in the box provided and you will see your complete abstract.
- Do not try to edit after pasting as it will not allow you to edit freely.
- Save the file with your name as file name and Email the file to sbc2009@nccs.res.in.

ABSTRACTS

Payment

- All payments have to be made through demand draft / multicity cheques in favour of " SBC(I) - 2009 - Pune " payable at Pune.

Cancellation

- For cancellation of registration, fifty per cent of the registration fee will be refunded if cancelled before September 30, 2009.
- No refunds for accommodation will be admissible.

Communications

- All communications related to the conference can be sent to the Email address sbc2009@nccs.res.in

Technical Exhibition

- Stalls for exhibition will be made available for technical exhibition for the duration of the meeting. Interested parties are requested to contact the organizing secretary.

ACCOMMODATION

The fee for different category of participants is as follows:

CATEGORY	FEE
Registered Participants	Rs. 1000
Registered Students	Rs. 500

1. The above rates are for per person, per day, on twin sharing basis.
2. Accommodation at above rates is available only for the duration of the conference in limited numbers.
3. For confirmed booking, early advance payment is a must.
4. Accommodation will include breakfast.

REGISTRATION		
Registration Fee - CATEGORY	Before 31/8/2009 (Rs.)	After 31/8/2009 (Rs.)
Members	2000	2500
Non-Members	2500	3000
Students**	1000	1500
Industry Members	5000	7000
Spot	–	5000 (conditional)
Accompanying persons	1500	2000

Registration fee includes conference material, lunch and dinner on conference days.

** Students registration form must be signed by his / her research guide. Society of Biological Chemists encourages all students to become members.

REGISTRATION FORM

78th Annual Meeting of the Society of Biological Chemists, (India)
National Centre for Cell Science (NCCS), Pune, October 30 - November 1, 2009

Please complete this form and submit it on-line not later than August 1, 2009

Name

Designation

Affiliation

Department

Address

City Post/Pin Code

Telephone & Fax

Email

Age: Sex: Male Female

Member of Society: Yes No Category: Life ordinary student

Have you submitted an abstract: Yes No

If yes, Title of Abstract

I intend to make a poster presentation/ only attend the meeting (strike whichever is not applicable)

Accommodation required : Yes No

Accommodation Type: Hotel Guest house Dormitory

Would like to share accommodation, if any

Mode of arrival: Air Train Bus Date and Time of Arrival

Mode of Departure Date and Time of Departure

Payment : Bank draft should be drawn in favour of "SBC(I)-2009 - Pune", payable at Pune.

Amount Draft No. Dated

Name of the Bank

2008 ANNUAL AWARDS

The Society announced the Annual Awards for 2008 at its Annual General Body Meeting held at Chennai during December 18-20, 2008. A brief description of the research interest is given below:

M. SREENIVASAYA MEMORIAL AWARD-2008

Yogendra Sharma,

Centre for Cellular and Molecular Biology (CCMB), Hyderabad



Calcium plays an important role in the cell physiology, and is even called a second messenger. The level of calcium ions in the human eye lens is important for its transparency. While it is needed for many of the functions in the lens, a rise in the level of free calcium can lead to deleterious activities (such as activation of calcium-dependent transglutaminase activities, and calpain activation), leading to cataract. What controls the homeostasis of free calcium in the lens has been a puzzle. Lens is made up of α -, β - and γ -crystallins and there is no known calcium-binding protein in the lens. Yogendra Sharma has been able to provide a possible answer, showing that lens $\beta\gamma$ -crystallins act as depots of calcium; they bind calcium and keep it in the innocuous form. With this discovery, it is now clear that $\beta\gamma$ -crystallins in the lens perform additional non-structural functions as calcium homeostatic agents.

There are various motifs for calcium binding, such as EF-hand, annexin type, or C2 domains. The $\beta\gamma$ -crystallins do not have any of these motifs, and Sharma has identified the 'Greek key crystallin fold' as a motif that binds calcium in these proteins. He has shown that any protein possessing this motif would bind calcium, such as a non-lens member protein AIM1 (absent in melanoma 1), yersinia crystallin and caulollins from *Caulobacter crescentus*, and therefore might be performing calcium-dependent functions. Sharma has shown that yersinia crystallins and caulollins are intrinsically unstructured and gains beta-sheet structure when bind to Ca^{2+} . It is very relevant since it is known that this pathogen loses the virulency in calcium-depleted medium. Sharma's work has suggested that yersinia crystallin might be playing a role in pathogenesis via calcium sensing. Based on the structural topology, Sharma has been able to identify several novel and unique members of the superfamily with diversity and identified a unique mode of dimerization with domain swapping in a novel member.

Based on the identification of several crystallin domains as calcium-binder, he has suggested that the $\beta\gamma$ -crystallin superfamily is a novel family of calcium-binding proteins which might act differently, probably like calcium sequester or a different kind of functions, such as structural binding.

Sharma is well known for his contribution on the calcium-binding proteins of the EF-hand superfamily, such as calmodulin and neuronal calcium sensor-1 (NCS-1), and caldendrin. He has shown how E and F helices play a role in defining calcium affinities. NCS-1 is a protein, which is N-terminally myristoylated and its expression is up regulated in schizophrenia. He has shown that lithium binds to NCS-1 and decreases the NCS-1 induced InsP3R activity, suggesting the implications of this pathway in bipolar and schizophrenia. He has shown that myristoylation, a fatty acid modification, modulates calcium-binding, influences high cooperativity, and reduces protein stiffening thus playing a role in modulating NCS-1 structure and conformation. He has also identified the structural and regulatory EF-hand motifs of NCS-1. His work has shown the importance of myristoylation for the function of this protein in neuronal tissues via myristoylation signaling.

THINGS TO KNOW ABOUT BIOTECHNOLOGY

P N Rangarajan

The mushrooming of a large number of colleges offering fancy degrees in biotechnology, often collecting huge sums as fees, has eroded the value of knowledge-based education in our country. Additionally, comparison between biotechnology (BT) and information technology (IT) has led to a mad rush of students enrolling into biotech degree programmes. Modern buildings, hi-tech canteens, luxurious hostels as well as internet and computing facilities in these institutions are often misleading. How many care to check whether these institutions have experienced teachers who can impart even basic knowledge in biochemistry, microbiology, immunology and molecular biology or motivate students to take up research careers? Reputed institutes such as IISc get an ever increasing number of BSc and MSc students approaching us for carrying out small research projects with the primary aim of learning a few laboratory techniques and submitting a project report towards partial fulfillment of their degree programmes. I was even told that there are now private laboratories where a student can grow a bacterium, make a plasmid, run a gel and get a write-up for a certain fee that can be submitted back to the college as a project report.

Understanding basic concepts of biology is critical to understanding recent advances taking place in modern biology and biotechnology. For example, students can appreciate the therapeutic potential of stem cells in molecular

and regenerative medicine if they have a good understanding of the basic concepts of developmental biology and gene regulation. Similarly, breakthroughs in the area of cancer therapy can be appreciated better if the student has a basic knowledge on the mechanisms by which molecules such as hormones and growth factors regulate cell growth and differentiation.

Education or employment

Students aspiring to become leaders in biotechnology should focus on knowledge-based education rather than employment-based education. They should aim at completing at least a PhD, degree before aspiring for jobs. However, it should be noted that prospects for MSc students are not entirely dull and those students often land themselves in niche research and technical jobs. It is important that the student does some homework and joins the right institution and mentor for pursuing PhD programme. It is almost equivalent to bride/groom searching before marriage so that you get the best possible match, though not the perfect one. It is advisable for the student to check the research activities of the prospective mentor by getting information about his/her research publications, research grants as well as his/her personality. Unlike in the past when students had limited options, today there are a good number of research institutions and laboratories across the country offering excellent research programmes in biological sciences.

I often wonder as to what would have happened to my career had I not joined the laboratory of Prof G Padmanaban at IISc., for my PhD. The mentor-student relationship is analogous to the relationship between an air-traffic controller (ATC) and aircraft pilot/trainee. Though the pilot goes through rigorous training initially and becomes the captain of the aircraft and gradually gains independent control of the aircraft, he must maintain radio contact with the ATC all the time, especially during bad weather, take off and landing. In a similar fashion, a student who joins the PhD programme gets introduced to a new research area by his/her supervisor and starts working on a research problem under the watchful eyes of his/her research supervisor. Slowly, the student gains confidence and starts planning and executing experiments on his/her own, goes into the autopilot mode, seeking his advisory help during turbulent times, until he/she submits his/her thesis. Mentors who have been successful in their research careers often owe their success to hard working and brilliant students. Similarly, students who go on to become leaders in biotechnology are often grateful to their PhD advisors for steering their careers in the right direction during the initial stages of their research career. Derailments in the student-supervisor relationships are not uncommon, although in majority of the cases, misunderstandings get sorted out.

More than 95% of the students who complete their PhD degree in a laboratory in India go abroad for postdoctoral training. During this phase, he/she not only conceives and executes experiments, but gains expertise towards writing his/her own manuscripts and often get an opportunity to review manuscripts/grants of other researchers. Usually after 3-5 years of postdoctoral training, one makes the decision on whether he/she should opt for a career in a university/academic research institute or move to an industry job.

This is also the time, when decision has to be made on whether to stay/settle abroad or come back home. One of the options chosen by people like me is to come back to the home country, join a research institute as an assistant professor and go on to become professor. However, a vast majority of people opts for a career in biotech industry abroad or in India after post doctoral research and go on to become project leaders, group leaders etc, and contribute towards discovery and development of new diagnostics / therapeutics of the company. Some of them turn into entrepreneurs, start their own biotech companies and becomes captains of biotech industry. A small section of biotech graduates also specialise in new areas such as intellectual property, business management etc, and go on to become biotech patent attorneys, business consultants specialists in regulatory affairs etc, These career options popular abroad are still in their infancy in India.

The enforcement of the WTO regime leading to stringent patent laws in India has forced the private pharmaceutical/ biotech sector in India to initiate R&D programmes and forge active public-private partnerships thus encouraging biotech students in America to return to India. Departments of science & technology and biotechnology as well as CSIR have announced a number of initiatives to fund R&D activities as well as entrepreneurship in the private sector to encourage active R&D in the biotech industry as well as to groom new generation entrepreneurs.

The joy of exploring the unknown and contributing to knowledge in an academic institution or the excitement of developing a new diagnostic/drug/vaccine in a company and contribute to national/global economy cannot be explained but should be experienced. We are entering an era wherein patents, products and processes will come out of researchers in academic institutions while industrial R&D can lead to fundamental discoveries and excellent research publications.

The author is professor at the department of biochemistry, Indian Institute of Science, Bangalore.

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NOMINATIONS FOR 2009 SBC(I) AWARD

This year **P.B. Rama Rao Memorial Award**, **A.N. Bhaduri Memorial Lecture Award**, **C.R. Krishnamurti Lecture Award** and **A. Krishnamurthy Awards** (best paper published in Indian Journal), will be given at the annual meeting held at Pune. Please send the nominations including the date of birth, member status, brief resume of scientific contributions and a list of publications and few selected reprints in five copies of the nominee to :

Dr. V.S. Chauhan

President (SBCI), Director, ICGEB
Aruna Asaf Ali Marg, New Delhi 110 067
E-mail : virander@icgeb.res.in

Complete application should reach Dr. V.S. Chauhan on or before September 25th 2009.

CRITERIA FOR 2009 AWARDS

P. B. RAMA RAO MEMORIAL AWARD

Year of Commencement	: 1983
Frequency	: Once in three years
Value	: Rs.10,000/- with a citation

Eligibility

1. The award is for the best work done in the field of Biochemistry and Allied sciences in India (suggested areas are nutrition, as related to cell and membrane biology, neurochemistry immunology, cancer research, biochemistry of brain etc.)
2. The award is open to all Scientists working in India irrespective of their membership in society of biological chemists India.
3. No age limit.
4. If nominations are not received before the scheduled date, the awards committee can itself nominate a suitable candidate for the award.
5. A lecture will be scheduled at the Annual Meeting of SBC (I) and presentation will be made at that time.

A. N. BHADURI MEMORIAL LECTURE AWARD

Year of Commencement	: 2006
Frequency	: Once in three years
Value	: Rs.10,000/- with a citation

Eligibility

1. The recipient of the award should be below 50 years of age on December 31st of the year of the award.
2. The award is open to all Indian Scientists who hold permanent position in Universities, public funded Institutes and National laboratories.
3. The award is given for Biological chemistry and allied sciences, preferably related to parasitic infections.
4. A lecture will be scheduled at the Annual Meeting of SBC (I) and presentation will be made at that time.

C. R. KRISHNAMURTI AWARD

Year of Commencement	: 1995
Frequency	: Once in three years
Value	: Rs.10,000/- with a citation

Eligibility

1. The award is for the best work done in the field of Biochemistry and Allied sciences in India.
2. The award is open to all Indian Scientists who must be member of the Society for at least two years or life member.
3. No age limit.
4. A lecture will be scheduled at the Annual Meeting of SBC (I) and presentation will be made at that time.

A. KRISHNAMURTHY AWARD

Year of Commencement	: 1976
Frequency	: Annually
Value	: Rs.2,000/- with a citation

Eligibility

1. The recipient of the award should be below 30 years of age on January 1, of the year of the award.
2. The paper should be in the area of Biological Chemistry and Allied Sciences and the work should have been carried out in India.
3. The paper published in any Indian Scientific Journal in the previous year will be considered for the award.
4. In the case of multiple authorship, the senior author can nominate one of the authors or could be shared by all the eligible authors.
5. It is desirable that the awardee be asked to present the work at the Annual Meeting of the Society.

BEST POSTER AWARDS

The list of recipients for Best Poster Awards at the 77th Annual General Body Meeting held at Chennai during December 18-20, 2008 is as follows:

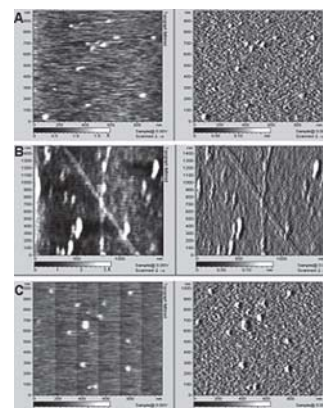
Name	Topic
Ruchika Sharma IISc., Bangalore	Orchestration of Haemophilus influenzae RecJ exonuclease by interaction with single-stranded DNA-binding protein.
Manash Paul IISER, Mohali	Design of a novel therapeutic approach for ALL by concomitant adenosine deaminase inhibition and cytochrome c release.
Anita Thakur JNU, New Delhi	Differential redox signaling in cardiac myocytes under adrenergic stress.
Sushma Padmaja Anna Univ., Chennai	Blueprint of S/MARs in the genome of protozoan parasite Giardia lamblia
Debjani Saha IISc., Bangalore	Non-essential splicing factors play context dependent functions in yeast pre-mRNA splicing.
Vidya A Kamble BARC, Mumbai	Reversible protein phosphorylation controls the nucleolytic DNA degradation in a radioresistant bacterium Deinococcus radiodurans.
Hindupur Sarvanth Kumar IISc., Bangalore	Simian virus 40 small t antigen protects cancer cells from glucose deprivation by inducing autophagy via activating AMPK pathway.
Dilip Kumar Bishi IIT-Madras, Chennai	Treatment with Dexamethasone along Stimulates Adipocytic differentiation of Human Mesenchymal Stem cells.
Jeya Maheshwari MKU, Madurai	Functional characterization of M.leprae 18kDa small heat shock protein.
Nandini Sarkar IIT- Guwahati	Studies on 2,5-Diketo-D-Gluconate Reductase A

Studies on 2,5 Diketo D Gluconate Reductase: Identification of Amyloid forming folding intermediate under acidic condition.

Nandini Sarkar, Abhay Narain Singh and Vikash Kumar Dubey*

Department of Biotechnology, Indian Institute of Technology Guwahati,
Guwahati- 781039, Assam, India.

Bacterial enzyme 2,5-Diketo-D-Gluconate Reductase (DKGR) is able to perform the stereo-specific reduction of 2,5-diketo-D-gluconate (DKG) to 2-keto-L-gulonate (2-KLG), a key intermediate of L-ascorbate (Vitamin C). The enzyme has potential application in the industrial production of Vitamin C. However, no stability and folding data is available about this key enzyme. We have used this enzyme as model system to understand folding of $(\alpha/\beta)_8$ -barrel protein. We have identified a molten globule like intermediate of bacterial enzyme 2,5-Diketo-D-Gluconate Reductase A (DKGR) the enzyme at pH 2.5 which is prominently β -sheet structure. The molten globule state of the protein shows amyloidogenic property above 50 μ M protein concentration. Interestingly, 1:1 molar ration of curcumin prevents amyloid formation as shown by Thioflavin-T assay and Atomic Force Microscopy. Results presented here indicate that molten globule state has important role in amyloid formation and potential application of curcumin in protein biotechnology as well as therapeutics against amyloid diseases.



Orchestration of *Haemophilus influenzae* RecJ exonuclease by interaction with single-stranded DNA-binding protein

Ruchika Sharma

Department of Biochemistry, Indian Institute of Science,
Bangalore 560012

Single-stranded DNA-binding proteins (SSB) are an indispensable component of almost all DNA metabolisms pathways and their presence in all known cellular organisms emphasizes their fundamental importance. Apart from the role of SSB of stabilizing and protecting single-stranded DNA, new regulatory and organizational functions of SSB are emerging through their interactions with proteins involved in DNA metabolism. RecJ exonuclease, broadly classified as a DNA repair protein plays crucial roles in several DNA repair and recombination pathways and its ubiquity in bacterial species points to its ancient origin and vital cellular function. In this study, SSB and RecJ proteins from *Haemophilus influenzae* were isolated and their functional and physical interaction was investigated. Significantly, steady-state-kinetic studies with RecJ in the presence of cognate SSB protein showed that *H. influenzae* SSB protein increased the affinity of RecJ for single-stranded DNA and specifically stimulated its exonuclease activity. *H. influenzae* SSB, whose C-terminal tail had been deleted, failed to enhance the RecJ exonuclease activity. More importantly, *H. influenzae* RecJ was found to directly associate with its cognate SSB as demonstrated by various *in vitro* assays including co-immunoprecipitation, far-western analysis and surface plasmon resonance. Interaction studies carried out with the truncated variants of *H. influenzae* RecJ and SSB revealed that the two proteins interact via the C-terminus of SSB and the core-catalytic domain of RecJ. Taken together, these results implicate SSB to be involved in recruitment of RecJ to DNA. These results provide insights into the physiological functions of these proteins, which are consequential for genome maintenance of pathogenic organisms like *H. influenzae*.

Reversible protein phosphorylation controls the nucleolytic DNA degradation in a radioresistant bacterium, *Deinococcus radiodurans*

Vidya A. Kamble and Hari S Misra*

Molecular Biology Division,
Bhabha Atomic Research Centre
Mumbai-400085, India

Deinococcus radiodurans R1 (DEIRA) is characterized for its extreme tolerance to various abiotic stresses including gamma radiation and desiccation. Except the absence of RecBC recombination pathway, it has nearly similar DNA recombination and DNA repair complements of a radiation sensitive bacterium, *Escherichia coli*. However, the unique mechanism of fragmented genome protection from nucleolytic degradation makes *Deinococcus* to outperform other organisms. The molecular mechanism of DNA protection from nucleolytic degradation has been investigated. We showed that the DNA damage inducible ATP and cyclic AMP regulated reversible protein

phosphorylation regulates nuclease activity during post irradiation recovery of DEIRA. The nuclease activity was constitutive and could be stimulated by dephosphorylation. ATP could inhibit higher nuclease activity in dephosphorylated samples in presence of phosphatase inhibitor and ATP effect was not observed when protein kinase activity was inhibited. This suggested the involvement of reversible protein phosphorylation in nuclease activity modulation. Further, the DNA damage induced increase in levels of signaling molecules like cyclic AMP, adenylyl cyclase and their implications in post translational regulation of nucleolytic degradation are reported first time in this prokaryote i.e. *Deinococcus radiodurans*.

Non-essential splicing factors play context dependent functions in yeast pre-mRNA splicing

Debjani Saha, Shataparna Banerjee, Piyush Khandelia and Usha Vijayraghavan

Department of Microbiology and Cell Biology
Indian Institute of Science, Bangalore

Precise recognition and removal of introns from nascent pre-mRNAs is an essential step in gene expression. Intron splicing is catalyzed by the spliceosome that is formed by the ordered interactions between five small nuclear ribonucleoprotein particles (snRNPs)- the U1, U2, U4/U6, and U5 snRNPs and many non-snRNP proteins. Among the spliceosomal proteins functions are best understood for those with helicases activity; most other factors are as yet poorly defined. Genetic analysis in budding yeast indicate that while most splicing proteins are essential factors, a small proportion are non-essential. The latter proteins are predicted to aid in improving splicing efficiency. The essential factor Cef1p, occurs in a large protein complex with several other splicing factors and few uncharacterized proteins. We report here our studies on Ycr063w, a non-essential factor of this complex. We find the *ycr063w?* strain is conditional for growth at temperatures above 34°C and as well as below 18°C. In addition as earlier reported (Masciadri *et al.*, 2004), we find that null strains have budding defects at non-permissive temperatures as the mother cell is enlarged with multiple buds. To probe the likelihood of Ycr063w regulating the expression of genes required for normal budding we assessed the splicing status of intron-containing transcripts that encode proteins with annotated functions in budding. Our data implicate transcript-dependent splicing functions for Ycr063w that are not related to the presence or lack of consensus intronic *cis*-elements in the affected pre-mRNAs. To understand the splicing functions of Ycr063w, *in vitro* splicing assays were performed using extracts from wildtype, *ycr063w* null and cells expressing a functional epitope-tagged Ycr063w protein. These data show that the absence of Ycr063w slows the first-step of splicing and arrests the second-step. Preliminary data indicate that Ycr063w is present in precatalytic early assembling spliceosomes and in catalytic spliceosomes. These *in vitro* data are in some aspects similar to that known for Prp17, another non-essential factor of the Cef1p complex. Therefore, we have examined the likelihood of functional overlap between Ycr063w and Prp17 by adopting genetic tests. The data show that despite both factors being non-essential their functions are likely distinct. These studies thus show transcript-dependent requirements for the various non-essential splicing factors that contribute to efficient splicing.

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BRANCH ACTIVITIES - 2009

SPEAKER	TOPIC
BANGALORE	
HEAD QUARTERS	
Dr. Melina Georgousakis, USA	Development of a live bacterial delivery system for a conformationally restricted peptide vaccine against Group A Streptococcus
Dr. Margit Burmeister, USA	Genetics of Bipolar disorder
Dr. Devanjan Sikder, USA	The sleep-wake switch: A metabolic sensor
Dr. Madhusudan Kadekoppala, UK	Merozoite surface protein 1 partners in plasmodium falciparum: Genetic or functional redundancy?
Dr. Matthias Rommeswinkel, Germany	Olympus multi colour TIRFM (Total internal reflection fluorescence microscopy) system
Dr. Prabha Sampath, Singapore	Beyond transcription: Translational control in embryonic stem cells.
Dr. Anindya Bagchi, USA	A functional genomics approach to identify new tumor suppressors: dissecting 1p36 in human cancer.
Dr. Anjan Banerjee, Pune	Long- distance trafficking of mobile RNAs in phloem.
Dr. Inder Verma, USA	Cancer: A melody of genes
Dr. Prashant Sharma, Frederick	Small ubiquitin-like modifier (SUMO) post-translational modification in embryonic development and cancer.
Dr. Samit Chattopadhyay, Pune	Connecting life and death: fine tune control by tumor suppressor SMAR1
Dr. Sureshkumar Balasubramanian, Australia	War and growth: learning from natural variation
ANNAMALAINAGAR	
Dr. P.S.M. Prince: Convenor	
Dr. G. Kumaresan, Madurai	Diagnostic and therapeutic cancer biomarker discovery by integrative genomics.
Dr. S Nagani, Annamalainagar	Anticancer effects of tea polyphenols: molecular mechanistic pathways.
Dr. K Balamurugan, Karaikudi	RNAi and Caenorhabditis elegans for functional genomics
Dr. K Srikumar, Puducherry	Oxysterols in animal cell metabolism Students symposium was held on Epigenetics: More than the sum of Genes Sixteen research papers were presented in the 18 th Annual Meeting and National Conference on Frontiers in Biology
CHENNAI	
Dr. Niranjali Devaraj: Convenor	
Dr. Ganesh Venkataraman, USA	Evaluation of Tag-72 as a target for targeted therapy of ovarian cancer.
Dr. Pazhani Sundaram, USA	The Business of Life science Research and Drug Development
Dr. Kailash N Pandey, USA	Genomic mutations in Guanylyl cyclase/ natriuretic peptide receptor- A defines protective role in cardiovascular regulation National level seminar on Recent trends in Bioinformatics- Bioinformatica
COIMBATORE	
Dr. Parvatham R : Convenor	
Dr. Shashidar N Rao, USA	Two days workshop on computer aided drug design
Dr. Madhavi Shastry, Bangalore	
Mr. R. Raghu, Bangalore	
Dr. Natarajan Muthusamy, USA	Inauguration of Biochemistry, Biotechnology& Bioinformatics " from bench to patients- Application of Biochemistry, Biotechnology and Bioinformatics in translational research
Dr. P Thilakan, S Korea	Recent advances in nanotechnology Indo-Koren Joint Seminar On" Biosciences Research in the Era of Globalization"
Dr. Tae-Sun Min, Korea	Koan Biotech Sector- Present status and future opportunities

Dr. Yong Pyo Lim , Korea	Genomic research- global scenario. Multinational Brassica Genome sequencing project
Dr. H Devaraj , Madras	Stem cells: Nerve, Muscle, tissue Engineering
Dr. Tac- Zin-Yang , Korea	Brassica genome structure revealed by Comparative Genomics & Arabidopsis
Dr. Gon-Sup-Kim , Korea	Korean Biotech in Medical Science Research
Dr. Hyun-Gyu-Park , Korea	DNA chip for the diagnosis of human genetic mutation
Dr. Sivathanupillai , New Delhi	Special Lecture on DRDO Projects
Dr. N Jeyakumar , Coimbatore	Proteins, Protein Database and Proteomics
Dr. K Mani , Coimbatore	Novel approaches in Drug discovery and metagenomics
Mr. B Thiagarajan , Coimbatore	Significance of programming and algorithms in Bioinformatics.
Dr. T.G. Ramesh , USA	Special Lecture on <i>in vivo</i> and <i>in vitro</i> effects of microgravity
Dr. Kulanthaivel , Coimbatore	Application of physics on the structure and function on biomolecules.

JORHAT

Dr. B.G. Unni: Convenor

Dr. Prabhat Goswami , USA	Redox regulation of cell cycle in Human health and disease.
Prof. P.R. Sudhakaran , Kerala	Angiogenesis: Molecular targets
Dr. Deepak Chandra , USA	Wheat Biology in Genomic Era.
Dr. Binoy Kr. Bordoloi , USA	Biomedical research and its principles
Dr. Dipak Santra , USA	Wheat Breeding in genomic Era, new twist to the classical science.
Prof. Mihir Choudhury , Assam	Green Chemical Technology and its relevance
Prof. Dr. S. Orlyk , Ukrain	Heterogenous Catalysis
Mr. Meghneel Borah , Noida	Genetically modified food and Genetically modified organisms.
Dr. J.L. Karihaloo , New Delhi	Genetic resources, management and improvement
Dr. Raju Khan , Assam	Biosensors for biomedical diagnostics and environmental monitoring.
Dr. P. K Seth , Lucknow	Biotechnological applications in health, agriculture and environment.
Ms. Mousumi Saikia , Assam	Various types of molecular marker techniques for studies of biomolecules
Ms. Hemphi Terangpi , Assam	Nanobiotechnology and its applications
Mr. Hrikhikesh Dowarah , Assam	DNA vaccine and plant edible Vaccine
Prof. Ruben Tatevossian , Russia	Co-seismic phenomena and earthquake intensity
Dr. Harsh Gupta , Hyderabad	International year of planet Earth
Mr. Hiroshi Takehama , Japan	Diffraction unit model, ultima-IV
Ms. Rajashree Das , Bangalore	Prospects of GM food in the country.

KARNAL

Dr. Suman Kapila: Convenor

Dr. S S Kakar , USA	Securin and Tumorigenesis
Dr. Sunil Kumar Khare , New Delhi	Extremozymes the novel enzymes from extremophiles

MADIKERI

Dr. Chandrashekar G Joshi: Convenor

Dr. Sucheta Kumari , Mangalore	Biochemical aspects of Diabetes mellitus
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MYSORE

Dr. B.S. Jena: Convenor

Dr. Richard E. Goodman , USA	Understanding Food Allergy and the Role of Industry in Minimizing Risks from Processed Foods
Dr. Bina Joe , USA	Under pressure to locate genes controlling blood pressure
Dr. Kazuo Miyashita , Japan	Nutraceuticals and functional ingredients from marine sources

NAGPUR	Dr. M.Patil: Convenor
Dr. S. Subramanian , USA	Etiology of breast Cancer and recent developments in breast cancer research.
Dr. Rajesh Gokhle , New Delhi	Recent advances in Tuberculosis research and policies of Government of India to eradicate T.B.
TIRUPATI	Dr. Thyaga Raju K : Convenor
Dr. Prasad Dhulipala , USA	Applications of genomics in health and Diseases
Dr. Chris Anthony , UK	Role of Quinoprotein: Electron transport
Dr. DN Rao , New Delhi	Relationship between nanotechnol and Immunology
Dr. GV Manasa , USA	Biological membranes & their lateral quantification
Dr. Rajiv Dixit , Canada	Transcriptional Regulation of photoreceptor fate
VISAKHAPATNAM	Dr. T M Radhakrishnan: Visakhapatnam
Dr. P.B Kirti , Hyderabad	Transgenic plant technology
Dr. T M Radhakrishnan , A.U	Enzyme Engineering
Dr. K V V S N Bapiraju , USA	Role of IG-20 in Cancer
Dr. P Prakash Babu , Hyderabad	Apoptosis and its significance
Dr. U S N Murthy , Hyderabad	Bioinformatics
Dr. P Maruthi Mohan , Hyderabad	Genome analysis of Neurospora crassa
Dr. K V Madhava Rao , A.U	Genetically modified crops
Dr. U Satyanarayana , Vijayawada	Recent developments in medical biotechnology
Dr. P Aparna Dutta Gupta , Hyderabad	Recent developments in animal biotechnology
Dr. D N Rao , Bangalore	Restriction endonucleases
Dr. S Dayananda , Hyderabad	Genetically engineered organisms for production of Biofuels
Dr. Ch. Nageswara Rao , USA	Butyryl cholinesterases spares acetyl cholinesterase from nerve gases
Dr. Dr. Y U B Rao , Hyderabad	Vaccine development
Dr. Mangal Rai , New Delhi	Transgenic culture in agriculture
Dr. S Ram Reddy , Warangal	Cell Cycle and its regulation
Dr. V Dange , Hyderabad	Drug delivery systems through skin
Dr. P Balakrishna Murthy , Chennai	Risk assessment of genetically modified substances
Dr. K Balakrishnan , Visakhapatnam	Recent developments in Bioprocess technology
Dr. C Chenna Reddy , USA	21st century - Biotech Century
Dr. Akella Vani , Bangalore	Generating monoclonal antibodies by phage display technique
Dr. G. Padmanaban , Bangalore	Recent advances in Biotechnology & drugs and drug targets against malaria
Dr. G Raghurama Rao , Visakhapatnam	Oxidative stress in disease and role against malaria
Dr. G A Rama Raju , Visakhapatnam	Advances in Human reproduction
Dr. H D Kumar , Punjab	Nanobiotechnology
Dr. Kanguaene , Malaysia	Bioinformatics

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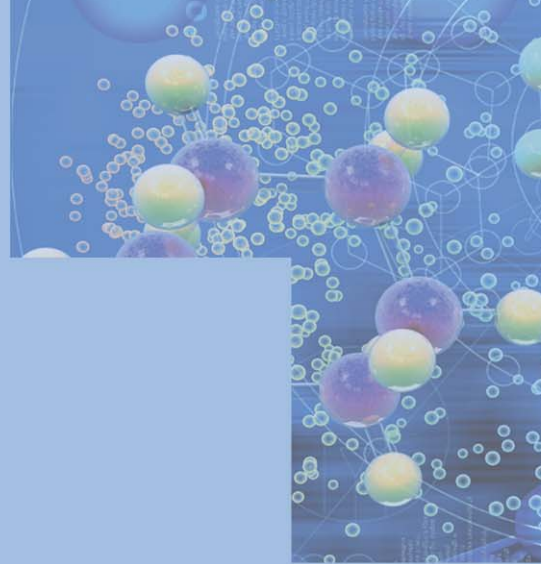
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