## 25 Selected publications

- Datta A (1970) Regulatory role of ATP on hog kidney N-acetyl-D-glucosamine -2-epimerase. *Biochemistry* 9: 3363-3370
- Datta A, Camerini O, R.D, Braunstein SN and Franklin RM (1971) Structure and synthesis of a lipid containing bacteriophage VII. Structural proteins of bacteriophage PM2. Virology 45: 232-239
- Datta A and Franklin RM (1972) DNA -dependent RNA polymerase is associated with bacteriophage PM2. Nature 236: 131-133
- Datta A, de Haro C, Sierra JM and Ochoa S (1977) Mechanism of translational control by hemin in reticulocyte lysate. Proc. Natl. Acad. Sci. USA74: 3326-3329
- Reddy ASN, Raina A, Gunnery S and Datta A (1987) Regulation of protein synthesis in plant embryo
  by protein. phosphorylation I. Purification and characterization of a cAMP -independent protein
  kinase and its endogenous substrate *Plant Physiol. USA*. 83: 988-993
- Toro N, Datta A, Yanofsky M and Nester EW (1988) Role of the Overdrive Sequence in T-DNA border cleavage in Agrobacterium. Proc. Natl. Acad. Sci.USA, 85: 8558-8562
- Ganesan K, Banerjee A and Datta A (1991) Molecular Cloning of secretory acid proteinase Gene from Candida albicans and its use as a species specific probe. Infection and Immunity, USA, 59: 2972-2977.
- Mehta A and Datta A (1991) Oxalate decarboxylase from Collybia velutipes: Purification, Characterization cDNA cloning. J. Biol. Chem. 266:23548-23553
- Raina A and Datta A (1992) Molecular cloning of a gene encoding a seed specific protein with nutritionally balanced amino acid composition from Amaranthus, Proc.Natl. Acad. Sci .USA 89: 11774 - 11778
- Natarajan K and Datta A (1993) Molecular cloning and analysis of the NAG1 cDNA coding for glucosamine-6-phosphate deaminase from Candida albicans. J. Biol. Chem. 268: 9206-9214.
- Malathi K, Ganesan K and Datta A (1994) Identification of a putative transcription factor in Candida albicans that can complement the mating defect of Saccharomyces cerevisiae ste12 mutants. J.Biol.Chem. 269: No.37, 22945-22951
- Jyothi MK, Jamaluddin MS, Natarajan K, Kaur D and Datta A (2000) Analysis of the Inducible GlcNAc Catabolic Pathway Gene Cluster in Candida albicans: Discrete GlcNAc Inducible Factors interact at the Promoter of NAG1. Proc. Natl. Acad. Sci., USA 97: 14218-14223
- Kesarwani M, Azam M, Natarajan K, Mehta A, and Datta A (2000) Oxalate Decarboxylase from *Collybia velutips*: Molecular Cloning and Its Over Expression to Confer Resistance to Fungal Infection in Transgenic Tobacco and Tomato. *J.Biol.Chem.* 275: No.10, 7230-7238
- Chakraborty S, Chakraborty N and Datta A (2000) Increased nutritive value of transgenic potato by expressing a non-allergenic seed albumin gene from Amaranthus hypochondriacus Proc. Natl. Acad. Sci,USA, 97: 3724-3729
- Chakraborty S, Sarma B, Chakraborty N and Datta A (2002) Premature termination RNA polymerase
  II mediated transcription of a seed protein gene in Schizosaccharmyces pombe. Nucleic Acid
  Research, 30: 2940-2949
- Meli VK, Ghosh S, Prabha TN, Chakraborty N, Chakraborty S and Datta A (2010) Enhancement of fruit shelf life by suppressing N-glycan processing enzymes. Proc. Natl. Acad. Sci,USA, 107 (6): 2413-2418
- Chakraborty S, Chakraborty N, Agrawal L, Ghosh S, Narula K, Shekhar S, Prakash S, Prakash S, Naik, Pande PC, Chakrborti SK and Datta A (2010) Next generation protein rich potato by expressing a seed protein gene AmA1as a result of proteome rebalancing in transgenic tuber. *Proc. Natl. Acad. Sci, USA*,107(41): 17533-17538
- Ghosh S, Rao KH, Sengupta M, Bhattacharya SK and Datta A (2011) Two gene clusters co-ordinate
  for a functional N-acetylglucosamine catabolic pathway in Vibrio cholerae. Mol
  Microbiol. Jun;80(6): 1549-1560
- Ghosh S, Meli VK, Kumar A, Thakur A, Chakraborty N, Chakraborty S and **Datta A** (2011) The N-glycan processing enzymes α-mannosidase and β-D-1 N acetylhexosaminidase are involved in ripening-associated softening in the non climacteric fruits of capsicum. *J Exp Bot*. Jan;62(2): 571-582

- Kamthan A, Kamthan M, Azam M, Chakraborty N, Chakraborty S, Datta A (2012) Expression of a fungal sterol desaturase improves tomato drought tolerance, pathogen resistance and nutritional quality. Scientific Reports 2: 951
- Ghosh S, Singh UK, Meli VS, Kumar V, Kumar A, Irfan M, Chakraborty N, Chakraborty S, Datta A
  (2013) Induction of Senescence and Identification of Differentially Expressed Genes in Tomato in
  Response to Monoterpene. PLoS ONE 8 (9): e76029
- Irfan M, Ghosh S, Kumar V, Chakraborty N, Chakraborty S, **Datta A (2014)** Insights into transcriptional regulation of β-D-N-acetylhexosaminidase, an N-glycan processing enzyme involved in ripening-associated fruit softening. *Journal of Experimental Botany 65; 20: 5835–48*
- Kamthan A, Kamthan M, Kumar A, Sharma P, Ansari S, Thakur SS, Chaudhuri A, Datta A (2015) A
  calmodulin like EF hand protein positively regulates oxalate decarboxylase expression by interacting
  with E-box elements of the promoter. Scientific Reports 5, 14578
- Kumar A, Ghosh S, Bhatt DN, Narula A, Datta A (2016) Magnaporthe oryzae aminosugar metabolism is essential for successful host colonization. Environmental Microbiology 18(3):1063-77
- Kumar V, Chattopadhyay A, Ghosh S, Irfan M, Chakraborty N, Chakraborty S, Datta A (2016)
   Improving nutritional quality and fungal tolerance in soybean and grass pea by expressing an oxalate decarboxylase. Plant Biotechnology Journal 14(6):1394-405
- Irfan M, Ghosh S, Meli VS, Kumar A, Kumar V, Chakraborty N, Chakraborty S, Datta A (2016) Fruit Ripening Regulation of α-Mannosidase Expression by the MADS Box Transcription Factor RIPENING INHIBITOR and Ethylene. Frontiers in Plant Science 7:10

## **Patents**

- A process for the preparation of fragmented nucleic acid useful for diagnosis Candidosis. Indian Patent No.177707 dated 15.2.97
- A process for the preparation of DNA encoding Oxalate decarboxylase from Collybia velutipes.
   Indian Patent No. 425/Del/92 dated 18.5.92
- A process for the isolation of DNA encoding a seed specific protein with nutritionally balanced amino acid composition from Amaranthus.Indian Patent No. 227/Del/93 dated 10.03.93
- Polynucleotide sequence of fruit softening associated  $\alpha$ -mannosidase and its uses for enhancing fruit shelf life. Indian Patent No.1647/DEL/2008 dated July 9, 2008
- Polynucleotide sequence of fruit softening associated β-D-N-acetyhexosaminidase and its uses for enhancing fruit shelf life. Indian Patent No.1648/DEL/2008 dated July 9, 2008
- A process for production of anti-diabetic compound in root culture of "Catharanthus roseus".
   Indian Patent No.1649/DEL/2008 dated July 9, 2008
- Mutant microorganisms and uses thereof. Indian Patent No.622/DEL/2012 dated March 2, 2012

## United States and other countries

- Oxalate decarboxylase.US Patent No 5547870 issued on 20.8.96
- Seed storage protein with nutritionally balanced amino acid composition. US Patent No.5670635 issued on 23.9.97
- AmA1 protein and presumably a composition containing same.
   US Patent No.5849352 issued on 15. 12. 98
- Method of making seed specific DNA.US Patent No.5846736 issued on 8.12.98.
- Polynucleotide sequence of fruit softening associated  $\beta$ -D-N-acetylhexosaminidase and its uses for enhancing fruit shelf life.IPA-1647/DEL/2008
- Polynucleotide sequence of fruit softening associated & alpha-mannosidase and its uses for enhancing fruit shelf life. (PCT/IN2009/000387). Published by WIPO on 14.01.2010 (Pub. No. WO/2010/004582) and by the Indian patent office on 16.04.2010 (1647/DEL/2008)
- Process for production of ant-diabetic compound in root culture of Catharanthus roseus.
   (PCT000389) Published by WIPO on 15.01.2010 (Pub. No. WO/2010/004584) and the Indian patent office on 23.04.2010 (1649 DEL/2008)
- Polynucleotide sequence of fruit softening associated & beta-D-N-acetyhexosaminidase and its
  uses for enhancing fruit shelf life. (PCT/IN2009/000388). Published by WIPO on 14.01.2010 (Pub.
  No. WO/2010/004583) and the Indian patent office on 23.04.2010 (1648/DEL/2008).

- Extra-cellular matrix localized ferritin-1 for iron uptake, storage and stress tolerance (International application No. PCT/IN2007/000231).
- Recombinant microorganisms and uses thereof. USA Patent No. 8,734,814 dated 27-5-2014.
- Polynucleotide Sequence of fruit Softening Associated B-D-N-Acetylhexosaminidase and its uses for enhancing fruit shelf life. European Patent No. 2315830 dated 03-09-2014
- Polynucleotide Sequence of Fruit Softening Associated A-Mannosidase and Its Uses for Enhancing Fruit Shelf Life European Patent No. 2315835Adated 15-7-2015
- Polynucleotide Sequence of Fruit Softening Associated B-D-N-Acetylhexosaminidase And Its Uses for Enhancing Fruit Shelf Life. Australian Patent No.2009269534 dated 03-09-2014
- Polynucleotide Sequence of Fruit Softening Associated A-Mannosidase and Its Uses for Enhancing Fruit Shelf Life. Australian Patent No.2009269533 dated 15-7-2015
- Polynucleotide Sequence of Fruit Softening Associated A-Mannosidase and Its Uses for Enhancing Fruit Shelf Life. Canadian Patent No.2726282 dated 8-7-2014.
- Polynucleotide Sequence of Fruit Softening Associated B-D-N- Acetylhexosaminidase and Its Uses for Enhancing Fruit Shelf Life. Canadian Patent No.2726292 dated 03-9-2014.
- Polynucleotide Sequence of Fruit Softening Associated B-D-N-Acetylhexosaminidase and Its Uses for Enhancing Fruit Shelf Life. Singaporean No.167504 dated 28-06-2013.
- Polynucleotide Sequence of Fruit Softening Associated A-Mannosidase and Its Uses for Enhancing Fruit Shelf Life. Singaporean No.167505 dated 15-07-2013.
- Polynucleotide Sequence of Fruit Softening Associated A-Mannosidase and Its Uses for Enhancing Fruit Shelf Life. USA Patent No. 8962918 dated 24-02-2015.
- Polynucleotide Sequence of Fruit Softening Associated B-D-N-Acetyl hexosaminidase and Its Uses for Enhancing Fruit Shelf Life. USA Patent No.8987556 dated 24-3-2015.
- Polynucleotide Sequence of Fruit Softening Associated B-D-N-Acetylhexosaminidase and Its Uses for Enhancing Fruit Shelf Life. Japanese Patent No. 5836802 dated13-11-2015.
   Polynucleotide Associated with Ergosterol Biosynthesis and Uses thereof. IB2015/000258 dated 04-8-2016.