**TIMOR BAASOV**

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**1. PERSONAL DETAILS**

Date & place of birth: January 3, 1954, Karely, Georgia.

Immigration to Israel: November 1974.

Marital Status: Married to Tamar+2 children: Inon (1981) and Inbal (1989).

Military Service: Israel Army, 1979 - 1981.

Home Address: 22 Gilboa Street, Haifa, Israel.

**2. ACADEMIC DEGREES**

1981-1986Ph.D. in Chemistry, The Weizmann Institute of Science, Israel.

1977-1979 M.Sc. in Chemistry, Tel-Aviv University, Israel.

1975-1977 B.Sc. in Chemistry, Tel-Aviv University, Israel.

**3. ACADEMIC APPOINTMENTS**

08-09.2017 Visiting Professor at the Dept. of Chemistry, The Scripps Research Institute, La Jolla, California. Summer Sabbatical stay with Prof. Chi-Huey Wong.

11-12.2013 Visiting Professor at the Genomic Center, Academia Sinica, Taipei, Taiwan.

June 2004- Professor, Schulich Faculty of Chemistry, Technion, Haifa, Israel.

1999-2004Associate Professor, Faculty of Chemistry, Technion, Haifa, Israel.

3-8.1998 Visiting Scientist, Dept. of Chemistry, The Scripps Research Institute, La Jolla, California. Sabbatical stay with Prof. Chi-Huey Wong.

1990-1998Senior Lecturer, Faculty of Chemistry, Technion, Haifa, Israel.

1988-1990 Lecturer, Faculty of Chemistry, Technion, Haifa, Israel.

1986-1988 Postdoctoral research associate with Prof. J. R. Knowles. Dept. of Chemistry, Harvard University, Cambridge, MA, USA.

**4. ADMINISTRATIVE POSTS**

2019-2022 Member of organizing committee, Blavatnic US-Israel Scientific Forum on Strategies and Technologies to Combat Antibacterial Resistance.

2018 International Advisory Board Member of the International Carbohydrate Symposium 2018 (ICS2018), Lisboa July 15-19, 2018.

1.2016- Chair of Professional Committees for the evaluation of Technion’s senior academic staff.

5.2014-2015 Elected Member of the Technion Standing Committee for the Appointments of Senior Academic Staff and Tenure.

7.2013-8.2015 President elected of The European Carbohydrate Organization (ECO).

2014-217 Elected Member of the Inspection Committee of the Israel Chemical Society.

2013-217 Member of Technion executive committee for the Honorary Degrees and Honorary Prizes.

2013 Chairman and organizer of the international symposium EUROCARB17 that held for the first time in Israel, Tel-Aviv, July 7-11, 2013.

2011-2016 Technion Senate member elected.

2011 Member of International Scientific Advisory Board of EUROCARB16,

Sorrento, Italy, July 2011.

2010-2012 Member of Technion executive committee for the Research Prizes.

2009-2012 Member of Technion executive committee for the promotion in the frame of KAMEA Program.

2008-2009 Member of organizing committee, The 74th Meeting of the Israel Chemical Society; February 8-9, 2009; David Intercontinental Hotel, Tel Aviv.

2008- National member elected at the executive committee of the International Carbohydrate Organization (ICO).

2007-2019 National member elected at the executive committee of the European Carbohydrate Organization (ECO).

2009-2010 Head of the organic and in-organic division, faculty of chemistry.

2006-2007 Head of the organic and in-organic division, faculty of chemistry.

2006-2007 Member of Technion's executive committee for honorary degrees.

2006-2008 Member of executive committee, The Israel Chemical Society.

2005-2007 Member of executive committee, Department of Biotechnology and Food Engineering.

2005- Chairman and organizer of an international 2-day symposium to celebrate the 80th birthday of Prof. Nathan Sharon. “Half a Century at the Carbohydrate-Protein Interaction.” November 23-24, 2005, Weizmann Institute of Science.

2005- Member of organizing committee, The 4th Congress of the Israel Association for Medicinal Chemistry, April 14, Weizmann Institute of Science, Rehovot.

2004- Member of committee, Interdepartmental Program of Biotechnology.

2004-2008 Chairman of steering committee of “The Know-How Center for Sugars and Polysaccharides” at the Ben-Gurion University of the Negev.

2001-2002 Vice-Dean for academic affairs, and chairman of teaching committee for undergraduate and graduate studies, Department of Chemistry.

1999- Chairman and organizer of Wolf-Prize Symposium (May 1999, Technion).

1999-2002 Representative of the Department of Chemistry to the Senate of the Technion.

1999-2002 Chairman of committee responsible for the joint library of Departments of Chemistry and Biology.

1997- Adviser and member of teaching committee of “Molecular Biochemistry,” the joint undergraduate path of the Departments of Chemistry and Biology.

1996-1999 Representative of Department of Chemistry at the Council of Department of Biology.

1996-1997 Member of organizing committee, 62nd annual conference of Israel Chemical Society (February 3-5, 1997, Technion).

1996-1997 Member of committee that created a new undergraduate studies path “Molecular Biochemistry”- the joint studies path between the Departments of Chemistry and Biology.

1996-1998 Member of teaching committee for undergraduate and graduate studies.

1989-1993 Organizer and Chair of “chemical demonstrations” given to junior high school students around the Haifa city.

1989-1991 Secretary of Faculty Council.

1990-1991 Organizer and Chair of weekly seminars (division of organic chemistry).

1991- Member of organizing committee, 57th annual conference of the Israel Chemical Society (February 12-13, 1992, Technion).

**MEMBERSHIP IN SCIENTIFIC AND PROFESSIONAL ASSOCIATIONS**

American Association for the Advancement of Science.

American Chemical Society.

The Israel Chemical Society.

The Israel Society of Microbiology.

Institute of Catalysis Science and Technology, Technion.

**HONORS**

1985 Chaim Weizmann Postdoctoral Fellowship (1986-1988).

1986 Dov-Elad award for excellence in Ph.D. studies, The Weizmann Institute of Science.

1989 The Henri Gutwirth annual award for the advancement of research in Technion.

1990-92 Colman-Cohen Academic Lectureship, Technion.

1991 The Henri Gutwirth annual award for the advancement of research in Technion.

1. Yusefa and Leonid Olshwang Prize for academic excellence in chemistry, awarded by the Israel Academy of Sciences and Humanities.

2002 Excellence in Teaching, Technion (organic chemistry 2B).

2005 Hershel Rich-Technion Innovation Award for the research work on “Rational Design of Bifunctional Antibiotics: From Antibiotics Targeting Cystic Fibrosis to Effective Treatment of Anthrax Lethal Factor.”

2005 Excellence in Teaching, Technion (organic chemistry 2C).

2005 Research Prize for the “Development of New Technology for the Defense from Terror”, administered by the Center of Science and Technology, Technion.

2005 Dr. Irving and Jeanette Benveniste Chair in Life Sciences.

2006 Excellence in Teaching, Technion (organic chemistry 2C).

2006 Muriel and David Jacknow Award for excellence in teaching.

2007 Schulich Award for excellence in teaching.

2008 Hershel Rich-Technion Innovation Award for the research work on “Novel Aminoglycosides and Uses Thereof in the Treatment of Genetic Disorders.”

2008 Excellence in Teaching, Technion (organic chemistry 2C).

2010 Hershel Rich-Technion Innovation Award for the research work on “Hybrid Antibiotics – A Novel Approach to Delay the Resistance Development by Bacteria".

2010 Excellence in Teaching, Technion (organic chemistry 2C).

2011 National Science Council of Taiwan Lectureship Award.

2012 Elsevier – *Bioorganic and Medicinal Chemistry* Top 25 cited Author 2010 to 2011.

2013 Visiting Professorship at the Genomic Center, Academia Sinica, Taipei, Taiwan.

2014 Excellence in Teaching, Technion (organic chemistry 2C).

2015 Schulich Prize for Excellence in Teaching.

2015 Visiting Professorship at the Genomic Center, Academia Sinica, Taipei, Taiwan.

2016 2016 ICS-ICL Prize for Technological Innovation.

2020 2020 NCK Prize for Outstanding Medicinal Chemist.

2022 Certificate of appreciation in supervising research team that won Third Place in Ninth Undergraduate Research Competition, May 26, 2022, Abu Dhabi University.

**TEACHING EXPERIENCE**

Department of Chemistry, Tel-Aviv University:

* 1. Teaching Assistant: Organic chemistry frontal and laboratory courses.

Department of Chemistry, Technion. Undergraduate (U) and Graduate (G) courses:

1989-1990 "General Chemistry." Chemistry 1 and Chemistry 11 (U).

1991- "Organic Chemistry." Organic Chemistry 1B, 1C and 2B (U).

1990- "Organic Chemistry Laboratory." OC Lab 1C, 1B, 1M (U).

1990-2002 "Enzymatic Reaction Mechanisms." Biennial course (U/G).

1998- “Carbohydrate Chemistry.” The Module of the Advanced Organic Chemistry course (U/G).

2001- “Carbohydrate Chemistry and Biochemistry.” (U/G)

2007/8- “Antibiotics Research – Past, Present and Future”

**GRADUATE STUDENTS**

### Completed their studies

1. Jakob Abla, M.Sc., 1991. Anomeric Specificity of KDO8P Phosphatase and KDO8P Synthase.
2. Berkovich Ronit, M.Sc., 1993. Stereochemistry of KDO8P Synthase-Catalyzed Reaction.
3. Zchuth Rachel, M.Sc., 1994. Purification of KDO8P Synthase From the Overexpression E. coli Strain and Mechanistic Study of the Enzyme-Catalyzed Reaction.
4. Kohen Amnon, M.Sc., 1990. Mechanistic Studies of KDO8P Synthase.
5. Kohen Amnon, Ph.D., 1994. Mechanistic Studies of the Reaction Catalyzed by the Enzyme KDO8P Synthase. (***Miriam and Aaron Gutwirth Award, 1991***, and ***Wolf foundation Award, 1992,*** for excellence during graduate studies).
6. Sheffer-Dee-Noor Shani, Ph.D., 1994. Synthesis and Examination of the New Analogues of Phosphoenolpyruvate and of the Putative Reaction Intermediate as a Tool for the Mechanistic Studies of KDO8P Synthase.
7. Levi Dorit, M.Sc., 1996. Catalytic Mechanism of KDO8P Synthase. Synthesis and Examination of the Suspected Intermediate Analogues.
8. Tkach Rachel, M.Sc., 1997. Synthesis and Examination of the New Amino Analogue of Arabinose-5-Phosphate as a Tool for the Mechanistic Studies of KDO8P Synthase.
9. Shoucheng Du, Ph.D., 1998. Catalytic Mechanism of KDO8P Synthase. Synthesis and Examination of the Suspected Intermediate Analogues.
10. Benenson Yaakov, M.Sc., 1999. Do Polysaccharides Bearing Catalytic Activity Exist in Nature? Researches to Discover Such Unique Macromolecular Structures. (***Miriam and Aaron Gutwirth Award, 1997*,** and ***Wolf foundation Award, 1998*,** for excellence during graduate studies).
11. Tsipori Hana, M.Sc., 1999. Catalytic Mechanism of KDO8P Synthase: Design of Novel Antibacterial Drugs. (***Miriam and Aaron Gutwirth Award, 1998*,** for excellence during graduate studies).
12. Solomon Dmitry, M.Sc., 1999. Towards Carbohydrate-Based catalytic Systems.
13. Solomon Dmitry, Ph.D., 2002. Rational Design of a Pentasaccharide with GTPase Activity. (***Miriam and Aaron Gutwirth Award, 2001*,** for excellence during graduate studies).
14. Rabkin Emilia, M.Sc., 2002. Structure-Function Studies of KDO8P Synthase.
15. Sandlers Yana, M.Sc., 2002. Catalytic Mechanism of KDO8P Synthase. Synthesis and Examination of the Proposed Intermediate Analogues.
16. Dovgolevsky Ekaterina, M.Sc., 2002. Catalytic Mechanism of KDO8P Synthase. Synthesis and Examination of the Proposed Intermediate Analogues. (***With Honor. Miriam and Aaron Gutwirth Award, 2002*,** for excellence during graduate studies).
17. Fridman Micha, M. Sc., 2001. Design, Synthesis, and Examination of Novel Oligosaccharide-Based Catalysts. (***Miriam and Aaron Gutwirth Award,*** for excellence during graduate studies).
18. Gershon Orit, M.Sc. 2002. Isolation, Cloning, and Purification of Thermophilic Kdo8P Synthase. (**Interdepartmental Biotechnology Program**).
19. Fridman Micha, Ph.D. February 2005 (direct path). Design, Synthesis, and Examination of Bifunctional Aminoglycoside Antibiotics. (***Miriam and Aaron Gutwirth Award, 2002***, ***Wolf foundation Award***, ***2003***, ***Israel Chemical Society Award, 2005****,* for excellence during graduate studies, and ***Rothschild Postdoctoral Fellowship***, ***2005***).
20. Mariana Hainrichson, M.Sc. December 2005. Structure and function studies of synthetic derivatives of aminoglycosides with aminoglycosides-modifing enzymes. **(*Leonard and Diane Sherman Interdisciplinary Fellowship for Technion graduate students*, awarded at 2005, *Miriam and Aaron Gutwirth Award, 2006,* Interdepartmental Biotechnology Program).**
21. Pokrovskaya Varvara, M.Sc. 2006. Design, synthesis and evaluation of aminoglycosides derivatives as potential new antibiotics **(*Banin foundation prize*** *for excellence in research****)***.
22. Igor Nudelman, M.Sc. 2006. Redesign of aminoglycosides for treatment human genetic diseases. **(*Leonard and Diane Sherman Interdisciplinary Fellowship for Technion graduate students*, *2006*).**
23. Lilach Chen, M.Sc. 2006. Structure-toxicity relationship of aminoglycoside antibiotics.
24. Avi Menasher, M.Sc. 2007. Catalytic Mechanism of KDO8P Synthase: Design of Novel Antibacterial Drugs. **(Interdepartmental Biotechnology Program**).
25. Tal Assaf, M. Sc. 2007. Biochemical Characterization of aminoglycoside modifying enzyme APH(2'')-AAC(6') with new synthetic derivatives of neomycin B. **(Interdepartmental Biotechnology Program**).
26. Gershon-Yaniv Orit, Ph.D. 2008. Resistance of Pseudomonas aeruginosa to aminoglycosides: regulation studies of APH(3')IIb enzyme and MexXY efflux pump. **(Interdepartmental Biotechnology Program**).
27. Helena Katz, M. Sc. 2008. Using liposomes to enhance antibacterial activity of novel antibiotics**. (Interdepartmental Biotechnology Program**).
28. Marina Cherniavsky, M. Sc. 2008. Development of Reporter System for High Throuput Screening of Synthetic Libraries for Evaluation of in vitro Stop Codon Readthrough Activity. **(*Leonard and Diane Sherman Interdisciplinary Fellowship for Technion graduate students*, awarded at 2007, *Miriam and Aaron Gutwirth Award, 2008.* Interdepartmental Biotechnology Program)**.
29. Mariana Hainrichson, Ph.D. 2009 (direct path). Structure and biological functions studies of synthetic derivatives of aminoglycosides with aminoglycosides-modifying enzymes. **(*Sylvia and David Fine Fellowship for Doctoral Students, 2007; Wolf foundation Award***, ***2008*; Interdepartmental Biotechnology Program**).
30. Lilach Chen, Ph.D. 2009 (direct path). Design, Synthesis, and Examination of Bifunctional Aminoglycoside Antibiotics.
31. Yifat Berkov, M. Sc. 2009. Rational design and synthesis of novel derivatives of aminoglycosides as stop codon readthrough inducers (***Curt & John M. Rychwalski Award, 2009***).
32. Varvara Pokrovskaya, Ph.D. 2010 (direct path). Hybrid antibiotics: a novel approach to delay development of bacterial resistance. (***Banin Foundation Prize, 2004*; *Hershel Rich-Technion Innovation Award 2009-2010***).
33. Igor Nudelman, Ph.D. 2010 (direct path). Redesign of aminoglycosides for treatment human genetic diseases. ***(Miriam and Aaron Gutwirth Award, 2008***; ***Jacobs Fellowship 2009***).
34. Dana Glikin, M. Sc. 2010. Development of Reporter System for Screening of Synthetic Libraries for in vitro and ex vivo Evaluation of Stop Codon Readthrough Activity. (***Miriam and Aaron Gutwirth Award, 2010*. Interdepartmental Biotechnology Program).**
35. Einav Taib-Fligelman, M.Sc. April 2012. Redesign of aminoglycosides for improved antibacterial performance.
36. Katya Shapira, M. Sc. December 2012. Development of Reporter System for Screening of Synthetic Libraries for in vitro and ex vivo Evaluation of Stop Codon Readthrough Activity **(Interdepartmental Biotechnology Program)**.
37. Dana Atia-Glikin, Ph.D. (direct path) December 2013. Structure-Activity-Toxicity relationship study of novel semi-synthetic aminoglycosides: Development of new drug for the treatment of Genetic Diseases. (***Miriam and Aaron Gutwirth Award, 2010*. Interdepartmental Biotechnology Program**).
38. Moran Shalev, Ph.D. August 2013. Structural studies of aminoglycoside antibiotics with rRNA **(*Shulich Award, 2012*)**.
39. Eli Shulman, Ph.D. (direct path) 2014. Exploration of the mechanism of aminoglycoside mediated ototoxicity ***(Banin Foundation Prize, 2010)***.
40. Yarden Degani, M. Sc. 2014. Redesign of aminoglycosides for the treatment of genetic diseases.
41. Boris Smolkin, Ph.D. (direct path) 2015. Towards Catalytic Antibiotics. (***Best Poster Award-first place, EUROCARB18 symposium, Moscow August 2-7, 2015.)***
42. Michal Shavit, Ph.D. 2015. Design of novel hybrid antibiotics.
43. Alina Vilensky, M. Sc. 2015. Towards Catalytic Antibiotics.
44. Vera kravinskiy, M. Sc. 2015. Prodrugs for the treatment of Genetic Diseases.
45. Moshe Nissim Goldmeier, MSc 2017. Hybrid antibiotics research.
46. Bat-hen Zalman, MSc September 2017. Hybrid antibiotics research.
47. Sofya Sudin, MSc July 2020. New perspectives in antibiotics research.
48. Ka-Shu Fung, PhD May 2021. New perspectives in antibiotics research-Catalytic Aminoglycosides.
49. Vera kravinskiy, PhD August 2021. Redesign of aminoglycosides with reduced toxicity for the treatment of genetic diseases.
50. Alina Wilensky-Khononov, PhD September 2021. Towards Catalytic Antibiotics.
51. Moshe Nissim Goldmeier, PhD April 2022. Towards Catalytic Fluoroquinolones.

International Students (part time)

1. Kasper Lundquist, PhD student under the supervision of Prof. Mads Clausen of the Technical University of Denmark, Department of Chemistry, in the frame Technion-Denmark Entrepreneurship & Innovation Research Program; February 1st-July 28, 2022.

**POST-DOCTORAL FELLOWS AND LABORATORY ASSISTANTS**

Completed their projects

1. Dr. Francis Wallace D'Souza, Post-doctoral fellow (September 1995-October 1996). Title of project: "Synthesis and Examination of the Proposed Intermediates in the KDO8P-Synthase-Catalyzed Reaction."
2. Dr. Ambar Kumar Choudhury, Post-doctoral fellow (October 1997-November 1998). Title of project: “Preparation of Oligosaccharide Libraries Using Solid Phase Synthetic Approaches.”
3. Dr. Sara Gropper, Post-doctoral fellow (October 1997-November 1998). Title of project: “Preparation of Site-Directed Mutants of KDO8P Synthase.”
4. Dr. Jean-way Zhang, Post-doctoral fellow (October 1999-November 2000). Title of project: “Self-Replication Systems Based on Carbohydrates
5. Dr. Smadar Shulami, post-doctoral fellow, during October 2000-2003. Title of project: “Active-site mutants of KDO8P synthase from thermophylic bacterium *Aquifex pyrophilus*.”
6. Dr. Micha Fridman, post-doctoral fellow during March 2005-August 2005. Title of project: “Synthesis of proposed intermediate in KDO8P-synthase-catalyzed reaction intermediate.”
7. Dr. Dalia Shallom, post-doctoral fellow October 2004-January 2007. Title of project: “Rational design of novel antibiotics by using computer-aided docking experiments.”
8. Dr. Mariana Hainrichson, post-doctoral fellow September 2009-February 2010. Title of project: Insights into the mechanism of aminoglycosides induced toxicity".
9. Dr. Jeyakumar Kandasamy, ***Schulich Postdoctoral Fellow*** since November 2008-October 2011. Title of project: "Design, Synthesis and Biological Evaluation of Small Molecules as Potential Drugs for the Treatment of Genetic Diseases."
10. Dr. Varvara Pokrovskaya. Title of project: Hybrid antibiotics: a novel approach to delay development of bacterial resistance.
11. Dr. Michal Shavit. January-July 2015. Title of project: Assays development for the detection of catalytic RNAse activity of synthetic molecules.
12. Dr. Sabbavarapu/Narayana Murthy; Postdoctoral Research Fellow from April 2013-June 2016. New concepts in design and evaluation of aminoglycoside derivatives as potential treatment option of genetic diseases.
13. Dr. Abragam Joseph; Postdoctoral Research Fellow from April 2015 – October 2018.
14. Dr. Surabhi Gupta, Silvia Noiman Postdoctoral Research Fellow August 2019-August 2020. Improving the activity of read-through drugs developed in the group.
15. Dr. Sandip Guchhait, Silvia Noiman Postdoctoral Research Fellow August 2020-July 2022. New derivatives of aminoglycosides as read-through inducers.

In progress

1. Dr. Valery Belakhov, senior research scientist, "KAMEA program" since May 1991.
2. Dr. Tomasz Pienko, postdoctoral research fellow since August 2021. “Molecular Dynamics simulations - towards catalytic drugs.
3. Dr. Alina Wilensky-Khononov, postdoctoral research fellow since September 2021. “Towards Catalytic Antibiotics”.
4. Dr. Moshe Nissim Goldmeier, since May 2022. “Towards Catalytic Fluoroquinolones”.

**RESEARCH GRANTS**

### Approved for support

1. **T. Baasov** 1990-1993

Grant Title: *"Mechanistic Studies on KDO-8-Phosphate Synthetase and KDO-8-Phosphate Phosphatase: Design of the Specific Antibacterial Drugs.*" Sponsored by the Basic Research Foundation (**BRF**), Administered by The Israel Academy Of Sciences And Humanities. Grant no: 485/90-2 (060-186). 1990-1993: NIS 144,000.

1. **T. Baasov** and J.R. Knowles 1991-1994

Grant Title: *"Mechanistic Studies on KDO-8-Phosphate Synthase".* Sponsored by the United States-Israel Binational Science Foundation (**BSF**). Grant no: 90-00478 (060-204). 1991-1994: $123,000.

1. **T. Baasov** and V. Belakhov 1991-1995

Grant Title: *"Design of the Specific Antibacterial Agents Against Gram-Negative Bacteria.*" Sponsored by the Ministry Of Science And Technology. Grant no: 3611-1-91 (060-217). 1991-1995: NIS 168,000.

1. **T. Baasov** and K. S. Anderson 1995-1998

Grant Title: *"Catalytic Mechanism of KDO8P Synthase: Design of Novel Antibacterial Drugs.*" Sponsored by the United States-Israel Binational Science Foundation (**BSF**). Grant no: 94-00371 (060-336). 1995-1998: $117,000.

1. Y. Shoham, **T. Baasov** and G. Shoham 1996-1998

Grant Title: *"Rational Design of Thermostable Hemicellulases for Enhanced Stability and Novel Applications".* Sponsored by The Ministry of Science and the Arts as an "Associated Scientific Project" for the Development of the Fundamental Technology Center for Protein Purification and Sequencing. Grant no: 5932/95 (080-466). 1996-1998: NIS 210,000 (out of NIS 630,000 total grant).

1. **T. Baasov** 1997- 2000

Grant Title: *“Do Polysaccharides Bearing Catalytic Activity Exist in Nature? Research to Discover Such Unique Macromolecular Structures.”* Sponsored by the Israel Science Foundation (ISF), Administered by The Israel Academy Of Sciences And Humanities. Grant no: 204-97-1 (060-330). 1997- 2000: NIS 459,000.

1. **T. Baasov**, K.S. Anderson and J. Friedman 1998-2001

Grant Title: *“Structure-Function Studies of KDO8P Synthase: Design of Novel Antibiotics.”* Sponsored by the United States-Israel Binational Science Foundation (**BSF**). Grant no: 97-00356 (060-464). 1998-2001: $105,000.

1. **T. Baasov** 2000-2003

Grant Title: *“Towards Carbohydrate-Based Catalytic Systems: An Alternative View on the Origin of Life.”* Sponsored by the Israel Science Foundation (**ISF**), Administered by The Israel Academy Of Sciences And Humanities. Grant no: 214-00-1 (060-550). 2000-2003: NIS 663,000.

1. **T. Baasov**, Y. Shoham, A. Schmidt, N. Adir 2002-2003

Grant Title: *“Structure-Function Studies of KDO8P Synthase by Solid-State REDOR NMR and X-Ray Crystallography: Rational Design of Novel Antibacterial Drugs.”* Sponsored by the Technion V.P.R. FUND FOR THE PROMOUTION OF RESEARCH. Grant no: 060-624. 2002-2003: $15,000.

1. **T. Baasov** andK. S. Anderson 2003-2007

Grant Title: “*Structure-Function Studies of KDO8P Synthase: Design of Novel Antibiotics*.” Sponsored by the United States-Israel Binational Science Foundation (**BSF**). Grant no: 2002/126 (060-643). 2003-2007: $140,000.

1. Y. Shoham, D. Schomberg, **T. Baasov** and G. Shoham 2003-2006

Grant title: “*Structure-Function Studies of Carbohydrate-Active Enzymes: The Design of Novel Functionalities*.” Sponsored by the German Israeli Foundation (**GIF**). Grant no: I-743-119.9/2002 (080-632). 2003-2006: Euro 118,000 (out of Euro 475,000 total grant).

1. **T. Baasov** 2003, 2004-2007

Grant title: “*Towards Bifunctional Antibiotics Targeting rRNA and Resistance-Causing Enzymes.”* Sponsored by the Israel Science Foundation (**ISF**), Administered by The Israel Academy Of Sciences And Humanities. Grant no: 2003-025-1. 2004-2007: NIS 663,000.

1. **T. Baasov**, S. Yaron and L. Bentur 2004-2005

Grant title: “*Towards Bifunctional Antibiotics Targeting Cystic Fibrosis.”* Sponsored by the Technion V.P.R. Fund for the Promoution of Research. L.L. Richmond Research Fund. Grant no: 2004118: $12,000. (2004-2005).

1. **T. Baasov** and T. Ben-Yosef 2006-2007

Grant title: “*Rational Design of Aminoglycosides to Treat Human Genetic Diseases”* Sponsored by the Mizutani Foundation for Glycoscience, Japan. Grant no: 1005904 (2006977): ¥ 6,000,000. (4.2006-3.2007).

1. **T. Baasov** (P.I.) and S. Yaron (C.I.) 2005-2006

Grant title: “*Development of Novel Antibiotics with Dual Effect Against Anthrax: Antibacterial Activity against Bacillus anthracis and Inhibition of Anthrax Lethal Factor”* Sponsored by the DVORA Foundation, administered by the Center of Science and Technology of Defence, Technion. Grant no: 2005987: $35,000. (2005-2006).

1. **T. Baasov** and T. Ben-Yosef 2006-2007

Grant title: “*Rational Design of Aminoglycosides to Treat Human Genetic Diseases”* Sponsored by the Technion V.P.R. Fund. Grant no: 2007401: $10,000. (6/2006-12/2007).

1. **T. Baasov** (P.I.) and S. Yaron (C.I.) 2007-2011

Grant title: “*Towards Bifunctional Antibiotics Targeting rRNA and Resistance-Causing Enzymes”* Sponsored by the Israel Science Foundation (**ISF**), Administered by The Israel Academy Of Sciences And Humanities. Grant no: 515/07 (1006974): INS 237,000 per year. The grant proved for four years 10/2007-9/2011).

1. **T. Baasov** (P.I.) and Daniel S Pilch (P.I.) 2007-2011

Grant title: “*Redesign of Aminoglycosides to Treat Human Genetic Diseases”* Sponsored by the United States-Israel Binational Science Foundation (**BSF**). Grant no: 2006301 (1006973): Total four years budget $151,000 ($105,000 for the Israeli PI and $46,000 for the US PI). (9/2007-8/20011). The total budget for the first year $43,000.

1. **T. Baasov** and T. Ben-Yosef 2007-2008

Grant title: “*Development of Small Molecule Drug for Treatment of Human Genetic Diseases Caused by Nonsense Mutations ”* Sponsored by the Horowitz Funds – the funds for the development of Technion’s knowledge for commercialization. Grant no: 2009155: $118,000. (06/2007-05/2008).

1. **T. Baasov** and T. Ben-Yosef 2008-2009

Grant title: “*Development of Small Molecule Drug for Treatment of Human Genetic Diseases Caused by Nonsense Mutations”*; Sponsored by the Horowitz Funds – the funds for the development of Technion’s knowledge for commercialization. Grant no: 2010987: $100,000. (08/2008-07/2009).

1. **T. Baasov** 09/2009-12/2010

Grant title: "Development of Small Molecule Drug for Treatment of Cystic Fibrosis and Other Diseases Caused by Nonsense Mutations". Ministry of Industry, Trade and Labor, MAGNET program, ***NOFAR*** with TEVA Pharmaceutical Comapany Ltd., Grant Reference No.: 880010 (PI: T.Baasov). $65,000 Total Direct Costs for the Period of support.

1. **T. Baasov** 09/2009-12/2010

Grant title: "Development of Small Molecule Drug for Treatment of Cystic Fibrosis and Other Diseases Caused by Nonsense Mutations". ***Mitchell*** Entrepreneurial Program at the Technion; Grant Reference No.: 907023/2012386 (PI: T.Baasov); $31,212 Annual Direct Costs.

1. **T. Baasov** (PI), E. Gak (PI) and P. Huppke (PI) 01/2011-12/2014

Grant title: "Potential Treatment of Rett Syndrome Caused by Nonsense Mutations". The German Israeli Foundation (**GIF**). The German PI Prof. Peter Huppke (Zentrum Kinderheilkunde und Jugendmedizin, Georg-August-Universität, Göttingen, Germany). The part of T.Baasov PI Budget $28,000 Annual Direct Costs.

1. **T. Baasov** (PI), D. Bedwell (Co-PI) and J. Schacht (Co-PI) 04/2011-03/2015

Grant title: "Tuning aminoglycosides for treatment of genetic diseases". **NIH** grant application RO1-new investigator grant. $340,205/annual for four years, for the period 01.04.2011-31.03.2015.

1. **T. Baasov**  05/2013-04/2014

Grant title: : "Development of Small Molecule Drug for Treatment of Cystic Fibrosis and Other Diseases Caused by Nonsense Mutations". The Fund For Applied Research at The Technion. $68,000.

1. **T. Baasov** 10/2014-9/2018

Grant title: “*Towards Catalytic Antibiotics”* Sponsored by the Israel Science Foundation (**ISF**), Administered by The Israel Academy Of Sciences And Humanities. Grant no: 1845/14: INS 310,000 per year. The grant proved for four years 10/2014-9/2018).

1. **T. Baasov** (PIs together with Michael Maijler-BGU and Micha Fridman-TAU)

Grant title:“Combained Approaches for Synergistic Targeting of Bacterial Infections” sponsored by Ministry of Science, Technology and Space, State of Israel for 3 years. 15.12.2015-14.12.2018; estimated annual budget of 216,200 NIS.

1. **T. Baasov** and Jochen Schacht (both PIs) 07/2016-06/2017

Grant title: Design, synthesis and evaluation of nonototoxic aminoglycosides for treatment of genetic diseases caused by nonsense mutations. Sponsored by Michigan-Israel Partnership for Research and Education. Grant no: 2023167, $50,000 (half to each PIs).

1. **T. Baasov** (PI): 08/2013-4/2020

Grant title: “Development of Small Molecule Drug for treatment of Genetic Diseases”. Sponsored by Eloxx Pharmaceuticals Ltd Research Grant (grant No: 2019230); $ 85,000 for the first year; $ 75,000 second year; $ 40,000 third year. $ 50,000 fourth and fifth years.

1. **T. Baasov** (PI): 10/2020-9/2023

Grant title: “*Towards Catalytic Antibiotics”* Sponsored by the Israel Science Foundation (**ISF**), Administered by The Israel Academy of Sciences and Humanities. Grant no: 667/20: INS 280,000 per year. The grant proved for three years 10/2020-9/2023), (TRDF No: 2028921).

1. **T. Baasov** (PI): 08/2021-07/2023

Grant title: “*Redesign of Existing Antibiotics to Catalytically Disable Their Targets –Towards Catalytic Antibiotics*” IIA-Kamin Grant. 381K INS per annual.

1. **T. Baasov** (PI): 06/2021-05/2022

Grant title: “*Development of Catalytic Small Molecule Drug – Catalytic Fluoroquinolone Antibiotics”.* Polak Fund for Allied Research in Technion. 45K $.

## EQUIPMENT GRANTS

## T. Baasov. The Basic Research Foundation, Israel Academy of Science and the Technion. A special support for the Startup of Young Faculties. FPLC system. $40,000. (1990).

## T. Baasov. The Israel Science Foundation (ISF). Grant no: 214-00-1 (060-550). HPLC System. 2001: $30,000.

## T. Baasov, Z. Gross and I. Marek *“High Resolution Triple-Resonance 500 MHz Spectrometer.”* Sponsored by the Israel Science Foundation (ISF) Administered by The Israel Academy Of Sciences And Humanities. Grant no: 9103/01. A special fund for the purchase of NMR equipment for the Faculty of Chemistry. $400,000 (2001-2002).

## Y. Shoham, T. Baasov, and C. Dozoretz *“Stopped-Flow Absorbance, Fluorescence and Circular Dichroism Spectrometer.”* Grant no: 1481-2004. Sponsored by the Israel Science Foundation (ISF). Total equipment cost $ 350,000, ISF granted $70.000. (2004).

## T. Baasov, Z. Gross and M. Gandelman *"High resolution 600 MHz NMR System"*. Sponsored by the Israel Science Foundation (ISF) under the framework of Converging Technologies. Grant no: 1798/07. Total amount: $ 725,000 (2007).

1. T. Baasov, I. Marek and C. Diesendruck - *"High resolution NMR System"*. Approved for support. VATAT Fund October 2021. $ 200,000.

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**INVITED LECTURES AT INTERNATIONAL AND NATIONAL CONFERENCES**

1. **Timor Baasov**, Abla Jakob and Amnon Kohen. "Mechanistic Studies on the Enzymes of Lipopolysaccharide Biosynthesis." The Annual Meeting of the Israel Chemical Society. The Hebrew University, Jerusalem, February 11-12, 1991.
2. **Timor Baasov**. Mechanistic Studies on the Enzymes of Lipopolysaccharide Biosynthesis: KDO8P Synthase and KDO8P Phosphatase. 1st Joint Symposium of The Royal Society of Chemistry and the Israel Chemical Society on "STRUCTURE AND REACTIVITY IN ORGANIC AND BIOORGANIC CHEMISTRY", University of Durham, UK, 2-4 September, 1992.
3. **Timor Baasov**. Insight into the Catalytic Mechanism of KDO8P Synthase - A Key Enzyme in the Biosynthesis of Lipopolysaccharides. The 58th Annual Meeting of the Israel Chemical Society. Bar-Ilan University, Ramat-Gan, February 17-18, 1993.
4. **Timor Baasov**. Antibiotic Resistance and Design of Novel Antibacterial Drugs. The Memorial Meeting of Professor Dan Becker. Technion, Department of Chemistry, 20 October, 1994.
5. **T. Baasov**, A. Kohen, S. Sheffer-Dee-Noor and S. Du. Towards the Mechanism-Based Inhibitors of Kdo8P Synthase - A Key Enzyme in the Biosynthesis of Lipopolysaccharides. The 61st Annual Meeting of the Israel Chemical Society. The Hebrew University of Jerusalem, Jerusalem, February 13-14, 1996.
6. **T. Baasov**. Towards Mechanism-Based Inhibitors of Kdo8P Synthase - A Key Enzyme in the Biosynthesis of Lipopolysaccharides. The Symposium honoring the laureates of the 1995-96 Wolf-Prize in Chemistry: Prof. Gilbert Stork and Prof. Samuel Danishefsky. Technion, March 26, 1996.
7. **T. Baasov**. Recent Insights into the Catalytic Mechanism of KDO8P Synthase – A Key Enzyme in the Biosynthesis of Lipopolysaccharides. 15th Umbrella Symposium on Biotechnology, Technion and Aachen University of Technology Research Center Julich. Whizin Lecture Hall, Technion, November 2-4, 1998.
8. **T. Baasov** and Yaakov Benenson. Towards Carbohydrate-Based Catalytic Systems: Concepts and Preliminary Results. The 64th Annual Meeting of the Israel Chemical Society. Bar-Ilan University, March 16-17, 1999.
9. **T. Baasov**. Novel Applications of Oligosaccharides as Possible Catalysts. The Symposium honoring the laureate of 1999 Wolf-Prize in Chemistry, Raymond U. Lemieux, Dept. of Chemistry, Technion, May 3, 1999. (**Organizer and Chairman**).
10. **T. Baasov**, Y. Benenson and D. Solomon. Towards Carbohydrate-Based Catalytic Systems: An Alternative View on the Origin of Life. 6th Conference of the International Endotoxin Society, Institute of Pasteur, Paris, France, August 24-27, 2000.
11. **T. Baasov**, Y. Benenson and D. Solomon. Towards Carbohydrate-Based Catalytic Systems: An Alternative View on the Origin of Life. 20th International Carbohydrate Symposium, Hamburg, Germany, August 27-September 1, 2000.
12. **T. Baasov**, S. Du, H. Tsipori and V. Belakhov. Towards the Development of Novel Antibiotics Acting at the Lipopolysaccharide Biosynthesis. 1st German-Polish-Russian Meeting on Bacterial Carbohydrates. Research Center Borstel, Borstel, Germany, September 3-5, 2000.
13. **T. Baasov**. Towards Carbohydrate-Based Catalytic Systems: An Alternative view on the Origin of Life. Special Symposium Celebrating the 75th Birthday of Prof. Yehuda Mazur. Schmidt lecture hall, The Weizmann Institute of Science, September 21, 2000.
14. **T. Baasov**.Towards Carbohydrate-Based Catalytic Systems: An Alternative view on the Origin of Life. International Conference “2000-The Era of Biotechnology,” October 24-27, 2000, Beer-Sheva, Israel.
15. **T. Baasov**, D. Solomon, M. Fridman, and J. Zhang,A Pentasaccharide Enzyme – Glycozyme with GTPase Activity. 11th European Carbohydrate Symposium, September 2-7, 2001, Lisboa, Portugal.
16. **T. Baasov**. Structural and Mechanistic Investigation of KDO8P Synthase by Solid-State REDOR NMR and X-Ray Crystallography. 67th Annual meeting of The Israel Chemical Society, January 29-30, 2002, Renaissance Hotel, Jerusalem.
17. **T Baasov**. Towards a New Class of Synthetic Antibacterials Acting on Lipopolysaccharide Biosynthesis. The 1st meeting of the Israel Association for Medicinal Chemistry. Ma’ale Hachamisha Hotel, Jerusalem, March 18, 2002.
18. **T Baasov**. Structural and Mechanistic Investigation of KDO8P Synthase by Solid-State REDOR NMR and X-Ray Crystallography. 10th Bratislava Symposium on Saccharides, Bratislava, Slovakia, September 1-5, 2002.
19. **T. Baasov.** Structural and Mechanistic Investigation of KDO8P Synthase by Solid-State REDOR NMR, X-Ray Crystallography, and ESI-TOF MS. 12th European Carbohydrate Symposium. Grenoble, France, July 6-11, 2003.
20. **T**. **Baasov.** Towards Bifunctional Antibiotics Targeting Cystic Fibrosis. The 69th Meeting of the Israel Chemical Society, David Inter-Continental Hotel, Tel-Aviv, February 2-3, 2004.
21. **T. Baasov**. Chemical club with a one-two punch: Tailored antibiotics attack anthrax pathogen in two places simultaneously. The 4th Congress of the Israel Association for Medicinal Chemistry, Weizmann Institute of Science, Rehovot. April 14, **2005**.
22. **T. Baasov**. Dual Effect of Synthetic Aminoglycosides: Antibacterial Activity Against *Bacillus anthracis* and Inhibition of Anthrax Lethal Factor.13th European Carbohydrate Symposium, Bratislava, August 21-26, **2005**.
23. **T. Baasov**. Redesign of Aminoglycoside Antibiotics: From Effective Treatment of Anthrax to Antibiotics Targeting Cystic Fibrosis. 2005 WHTS’ 3rd Congress of International Drug Discovery Science and Technology, Shangai, Worldfield Convention Hotel, China, 27-30 September, **2005**.
24. **T. Baasov**. Oligosaccharides in Action: Making Sense from Nonsense. The Future of Applied Glycobiology: A Satellite Meeting in Memory of Prof. Shimona Geresh, Ben-Gurion University, Beer-Sheva, November 22, **2005**.
25. **T. Baasov**. Redesign of Aminoglycoside Antibiotics: From Effective Treatment of Anthrax to Antibiotics Targeting Cystic Fibrosis. PacifiChem 2005, International Congress, Honolulu, December 15-20, **2005**.
26. **T. Baasov**. New Paromamine-Based Aminoglycosides as Potential Treatment of Human Genetic Diseases. 23rd International Carbohydrate Symposium; Whistler Conference Centre, Whistler, BC Canada; July 23-28, **2006**.
27. **T. Baasov**. Redesign of Aminoglycosides for Treatment of Human Genetic Diseases Caused by Nonsense Stop Mutations. 233rd American Chemical Society Meeting, Chicago, Illinois, March 25-29, **2007**.
28. **T. Baasov**. Redesign of Aminoglycosides for Treatment of Human Genetic Diseases Caused by Nonsense Stop Mutations. ILSI-BIOMED-2007, Tel Aviv, June 5-7, **2007**.
29. **T. Baasov**. Redesign of Aminoglycosides for Treatment of Human Genetic Diseases Caused by Nonsense Stop Mutations. Annual Meeting of Israel Medicinal Chemistry, Weizmann Institute of Science, Rehovot, March 13, **2007**.
30. **T. Baasov**. Redesign of Aminoglycosides: To Fix Default Genes with Small Molecules. Chemistry and Medicine: The Modern Journey from the Chemistry Bench to the Clinic. Technion, November 23, **2008**.
31. **T. Baasov**. To Teach Old Drugs New Tricks: Redesign of Aminoglycosides for Better Antibiotic Performance and as Potential New Drugs to Treat Genetic Diseases. Lecture in Memory of the late Professor Yehuda Mazur. The Weizmann Institute of Science, May 14, **2009**.
32. **T. Baasov**. Redesign of Aminoglycosides for Treatment of Human Genetic Diseases Caused by Nonsense Mutations. University of Alabama, CF Center, Bingham; June 11-12, **2009**.
33. **T. Baasov**. Redesign of Aminoglycosides for Better Antibacterial Performance and for Treatment of Human Genetic Diseases Caused by Nonsense Mutations. Gordon Research Conferences on Carbohydrates; Tilton School, New Hampshire, June 14-19, 2009. ***Invited Keynote Lecture***.
34. **T. Baasov.** New Aminoglycosides to Fix Genetic Diseases-Causing Mutations: Design, Synthesis and Evaluation. 15th European Carbohydrate Symposium, Vienna, Austria, July 19-24, **2009**. ***Invited Keynote Lecture***.
35. **T. Baasov.** Designer Aminoglycosides: The Race to Develop Improved Antibiotics and Compounds for the Treatment of Human Genetic Diseases. 3rd ISBIE Symposium, Academia Sinica, Taiwan, Taipei, October 21-24, **2009**. ***Invited Plenary***.
36. **T. Baasov.** To Fix Faulty Genes by Aminoglycosides: Development of New Derivatives of Aminoglycosides for Treatment of Genetic Diseases. 75th Annual Meeting of Israel Chemical Society. David Intercontinental Hotel, Tecl Aviv; February 7-8, **2010**.
37. **T. Baasov.** Designer Aminoglycosides: The Race to Develop Improved Antibiotics and Compounds for the Treatment of Human Genetic Diseases. One Day Symposium in Memory of Prof. Joe Spencer, 23 April, **2010**; University of Cambridge, Cambridge, UK. ***Invited Plenary***.
38. **T. Baasov.** To Fix Nature's Mistake: Repairing Human Faulty Genes by Sugars-Based Small Molecules. A Special Symposium in the Memory of Prof. Shimona Geresh, Ben-Gurion University, November 7, **2010**.
39. **T. Baasov**. Repairing faulty genes by small molecules: Development of new derivatives of aminoglycosides for treatment of human genetic diseases. ILANIT-**2011**, Eilat, February 9, **2011**. Invited Keynote.
40. **T. Baasov**. To Fix Nature's Mistake: Repairing Human Faulty Genes by Sugars-Based Small Molecules. ICS Annual meeting, Tel-Aviv, David Intercontinental Hotel, February 10, **2011**. ***Invited Plenary***.
41. **T. Baasov**. To Fix Nature's Mistake: Repairing Human Faulty Genes by Sugars-Based Small Molecules. Department of Chemistry, National Taiwan Normal University, Taipei, Taiwan, Sept. 4, **2011.** National Science Council of Taiwan Lectureship Award lecture. ***Invited Plenary***.
42. **T. Baasov**. To Fix Nature's Mistake: Repairing Human Faulty Genes by Sugars-Based Small Molecules. Department of Chemistry, National Taiwan University, Taipei, Taiwan, Sept. 5, **2011**. National Science Council of Taiwan Lectureship Award lecture. ***Invited Plenary***.
43. **T. Baasov**. To Fix Nature's Mistake: Repairing Human Faulty Genes by Sugars-Based Small Molecules. Genomic Center, Academia Sinica, Taipei, Taiwan, Sept. 8, **2011**. National Science Council of Taiwan Lectureship Award lecture. ***Invited Plenary***.
44. **T. Baasov**. Reversing the targeting of antibiotics from bacterial to human ribosome: a strategy towards treatment of human genetic diseases. The first binational UK-Israel Medicinal Chemistry Meeting., April 22-23, **2012**, Rechovot, Israel. ***Invited Plenary***.
45. **T. Baasov**. To fix nature's mistakes: Repairing human faulty genes by small molecules: development of new derivatives of aminoglycosides for treatment of human genetic diseases. 13th Annual Scientific Conference of FMRC "the endeavor to cure disease: novel approaches: June 11, **2012**. Belinson Hospital, Petach-Tikva. ***Invited Plenary***.
46. **T. Baasov**. To Fix Nature's Mistake: Repairing Human Faulty Genes by Sugars-Based Small Molecules. 26th International Carbohydrate Symposium, Madrid, July 23-27, **2012**. ***Invited Keynote.***
47. **T. Baasov**. To Fix Nature's Mistake: Repairing Human Faulty Genes by Sugars-Based Small Molecules. University of Michigan, Ann Harbor, December 11, **2012**.
48. **T. Baasov**. To Fix Nature's Mistake: Repairing Human Faulty Genes by Sugars-Based Small Molecules. Cystic Finrosis Foundation, Bethesda, USA; December 10, **2012**.
49. **T. Baasov**. Development of New Potential Drug for the Treatment of Genetic Diseases. Novartis, Boston, USA; January 16, **2013**.
50. **T. Baasov**. Development of New Potential Drug for the Treatment of Genetic Diseases. Pfizer, Boston, USA; January 15, **2013**.
51. **T. Baasov**. Development of New Potential Drug for the Treatment of Genetic Diseases. Ponrifax-Roche, Presentation in Herzelia, June 9, **2013**.
52. **T. Baasov**. New Perspectives of Designer Oligosaccharides: From Fixing Human Faulty Genes to Controlled Gene Expression and anti-Leishmaniasis Agents; Academia Sinica, Genomic Center, Taipei, Taiwan; December 16, **2013**.
53. **T. Baasov**. New Perspectives of Designer Oligosaccharides: From Fixing Human Faulty Genes to Controlled Gene Expression; 27th International Carbohydrate Symposium, Bangalore, India; January 12-17, **2014**.
54. **T. Baasov**. New Perspectives of Designer Oligosaccharides: From Fixing Human Faulty Genes to Controlled Gene Expression; International Conference on Challenges in Chemistry and Biology of Carbohydrates-CARBO XXVIII, Dehradun, India; January, 20-22, **2014**.
55. **T. Baasov**. New Perspectives of Designer Oligosaccharides: From Fixing Human Faulty Genes to Controlled Gene Expression and anti-Leishmaniasis Agents; Wolf Symposium honoring the laureate of 2013 Wolf Prize in Chemistry, June 2, **2014**.
56. **T. Baasov**. To Fix Nature's Mistake: Repairing Human Faulty Genes by Sugars-Based Small Molecules. Umbrella Symposium, Technion, Haifa, February 9, 2**015**. ***Invited Plenary.***
57. **T. Baasov**. To Fix Nature's Mistake: Repairing Human Faulty Genes by Sugars-Based Small Molecules. ICS Annual meeting, Tel-Aviv, David Intercontinental Hotel, February 10, **2015**. ***Invited Keynote***.
58. **T. Baasov**. New Perspectives of Designer Oligosaccharides: Potential for Treatment of Human Genetic Disease and as Anti-Leishmanials. EuroCarb-18, Moscow, August 2-6, **2015**. ***Invited Keynote***.
59. **T. Baasov**. New Perspectives of Designer Oligosaccharides: Potential for Treatment of Human Genetic Disease and as Anti-Leishmanials. ACS Annual Meeting, Boston, August 16-20, **2015**. ***Invited Keynote***.
60. **T. Baasov**. New Perspectives of Designer Oligosaccharides: From Fixing Human Faulty Genes to Controlled Gene Expression and anti-Leishmaniasis Agents; A Special Colloquium at the Department of Chemistry, National Dong Hua University, Hualean, Taiwan, October 2, **2015**.
61. **T. Baasov**. New Perspectives of Designer Oligosaccharides: From Fixing Human Faulty Genes to Controlled Gene Expression and anti-Leishmaniasis Agents; A Special Colloquium at the Genomic Center, Academia Sinica, Taipei, Taiwan, October 6, **2015**.
62. **T. Baasov**. New Perspectives of Designer Oligosaccharides for Rational Drug Development. A series of seminars given as a part of Technion delegation in: Peking University (7.3.2016), Tsinghua University (8.3.2016), Peking Univ. Depart. Pharmacology (9.3.2016), Shanghai Jiaotong (10.3.2016).
63. **T. Baasov**. To Fix Nature's Mistake: Repairing Human Faulty Genes by Aminoglycosides. Indo-German Conference on “recent applications of carbohydrates in chemistry and biology – RACCB-2017. February 13-17, 2017; Department of Chemistry, IIT (BHU) Varanasi, India. ***Invited Plenary.***
64. **T. Baasov**. New Perspectives of Designer Oligosaccharides for Rational Drug Development. A series of seminars given at the Scripps Research Institute, Department of Chemistry, during a summer sabbatical stay there: August-September 2017.
65. **T. Baasov**. Prokaryotic versus Eukaryotic Ribosomal Selectivity as a Tool for New Drug Discovery. A special Israel-France Symposium, Strasbourg, October 23-25, 2018, France. ***Invited Plenary.***
66. **T. Baasov**. Aminoglycosides - To Teach Old Drugs New Tricks. A special symposium dedicated to 70th birthday of Prof. Chi-Huey Wong. Hotel Royal Chiao His, Yilan Country, Taiwan, July 31-August 4, 2018. ***Invited Plenary.***
67. **T. Baasov**. Redesign of Aminoglycosides for Treatment of Genetic Diseases. USA Cystic Fibrosis Foundation, the “Brainstorm Workshop on the treatment of CF Nonsense Mutations”. Bethesda, MD, USA; January 22-23, 2019. ***Invited Plenary.***
68. **T. Baasov**. To Fix Nature's Mistake: Repairing Human Faulty Genes by Small Molecules. 6th Weizmann-Czech Republic summer school on “drug discovery and development from basic research through preclinical to clinical phases”. Prague, Czech Republic, September 2-6, 2019. ***Invited Plenary.***
69. **T. Baasov**. Making Sense from Nonsense: Repairing Human Faulty Genes by Aminoglycosides. The ICS-NCK Prize lecture at the 85th Israel Chemical Society Meeting; Jerusalem, Binianei Hauma, February 18-19, 2020, Israel. ***Invited 2020 NCK Prize Recipient Lecture.***
70. **T. Baasov**. Toward Catalytic Antibiotics. Pacifichem 2021-International Chemical Congress, “Advances in Glycan Engineering and Glycans from the Microbial World Symposium”, Honolulu, Hawaii, 16-21 December 2021 – All Virtual Congress.
71. **T. Baasov**. Blavatnik US-Israel Scientific Forum on “Strategies and Technologies to Combat Antibiotic Resistance; Washington DC, The US Academy House, 6-7 April 2022. ***Invited Plenary.***
72. **T. Baasov**. Conference honoring Prof. Eric Westhof of the University of Strasbourg, France, “International NetRNA Meeting”, May 2-5, 2022, Strasbourg, France. “From ribosomal RNA targeting catalytic antibiotics to treatment of genetic diseases”. ***Invited Plenary.***

LIST OF SCIENTIFIC AND PROFESSIONAL PUBLICATIONS

###### Thesis

**1979** M.Sc. thesis, under the supervision of Professor B. Fuchs. Thesis title: "Synthesis and Photochemistry of 1,2-Dihydrophtalic Thioanhydrides".

**1986** Ph.D. thesis, under the supervision of Professor M. Sheves. Thesis title: "Researches in Visual Pigments and Bacteriorhodopsin".

### Original Papers in Professional Journals with Referees (1982-2012)

1. **T. Baasov** and B. Fuchs. Photochemistry of Thioanhydrides. Photofragmentation of *cis*-1,2-Dihydrophtalic Thioanhydrides. *Tetrahedron Lett.* **23**, 1373-1376, (1982).
2. M. Sheves, **T. Baasov** and N. Friedman. A Remarkable Blue Shift of Retinal Schiff Base due to Electronic Interaction of Positive Charges. *J. Chem. Soc., Chem. Commun.* 77-79, (1983).
3. M. Sheves and **T. Baasov.** A Blue Shift of Protonated Retinal Schiff Base. A Model Study for Bacteriorhodopsin. *Tetrahedron Lett.* **24**, 1745-1748, (1983).
4. M. Sheves, **T. Baasov,** N. Friedman, M. Ottolenghi, R. Feinmann-Weinberg, V. Rosenbach and B. Ehrnberg. On the Binding Site of Bacteriorhodopsin. A Study With Artificial Pigments. *J. Am. Chem. Soc.* **106**, 2435-2437, (1984).
5. M. Sheves and **T. Baasov.** C=C Stretching Vibrational Frequencies in the Model Compounds of the Protonated Retinal Schiff Bases of Retinal. *Angew. Chem. Int. Ed. Eng.* **23**, 803-804, (1984).
6. M. Sheves and **T. Baasov.** Factors Affecting the Rate of Thermal Isomerisation of 13-cis-Bacteriorhodopsin to all-trans. *J. Am. Chem. Soc.* **106**, 6840-6841, (1984).
7. **T. Baasov** and M. Sheves. On the Absorption Maxima of Protonated Retinal Schiff Bases. An Interaction with External Charges. *Isr. J. Chem.* **25**, 53-55, (1985).
8. **T. Baasov** and M. Sheves. Model Compounds for the Study of Spectroscopic Properties of Visual Pigments and Bacteriorhodopsin. *J. Am. Chem. Soc.* **107**, 7524-7533, (1985).
9. **T. Baasov** and M. Sheves. Alteration of pKa of the Bacteriorhodopsin Schiff Base. A study with Model Compounds. *Biochemistry* **25**, 5249-5258, (1986).
10. R. Ghirlando, E. Berman, **T. Baasov** and M. Sheves. Interaction Between Protonated Schiff Base and Various Counterions: A Study by Two-Dimensional NOE NMR Spectroscopy. *Magn. Reson. Chem.* **25**, 21-24, (1987).
11. M. Sheves and **T. Baasov**. Probing the Binding Site of Bacteriorhodopsin with a Fluorescent Chromophore. *J. Am. Chem. Soc.* **109**, 1594-1596, (1987).
12. M. Sheves, **T. Baasov** and N. Friedman. Factors Affecting the C=N Stretching Frequency of Protonated Retinal Schiff Base. A Model Study for Bacteriorhodopsin and Visual Pigments. *Biochemistry* **26**, 3210-3217, (1987).
13. **T. Baasov** and J. R. Knowles. Is the First Enzyme of the Shikimate Pathway, 3-Deoxy-D-*arabino* Heptulosonate-7-Phosphate Synthase (Tyrosine-Sensitive), a Copper Metalloenzyme? *J. Bacteriol.* **171**, 6155-6160, (1989).
14. **T. Baasov** and A. Jakob. Anomeric Specificity of 3-Deoxy-D-*manno*-2-octulosonate 8-Phosphate Phosphatase from *Escherichia coli*. *J. Am. Chem. Soc.* **112**, 4972-4974, (1990).
15. A. Kohen, A. Jacob and **T. Baasov.** Mechanistic Studies of 3-Deoxy-D-*manno*-2-octulosonate-8-Phosphate Synthase from *Escherichia coli*. *Eur. J. Biochem.* **208**, 443-449, (1992).
16. S. Sheffer-Dee-Noor and **T. Baasov.** A Combined Chemical-Enzymatic Synthesis of a New Phosphoramidate Analogue of Phosphoenolpyruvate. *Bioorg. Med. Chem. Lett.* **3**, 1615-1618, (1993).
17. A. Kohen, R. Berkovich, V. Belakhov and **T. Baasov.** Stereochemistry of the KDO8P Synthase. An Efficient Synthesis of the 3-Fluoro Analogues of KDO8P. *Bioorg. Med. Chem. Lett.* **3**, 1577-1582, (1993).
18. S. Sheffer-Dee-Noor, V. Belakhov and **T. Baasov.** Insight into the Catalytic Mechanism of KDO8P Synthase. Synthesis and Evaluation of the Isosteric Phosphonate Mimic of the Putative Cyclic Intermediate. *Bioorg. Med. Chem. Lett.* **3**, 1583-1588, (1993).
19. **T. Baasov,** S. Sheffer-Dee-Noor, A. Kohen, A. Jakob and V. Belakhov. Catalytic Mechanism of 3-Deoxy-D-*manno*-2-octulosonate-8-phosphate Synthase. The Use of Synthetic Analogues to Probe the Structure of the Putative Reaction Intermediate. *Eur. J. Biochem.* **217**, 991-999, (1993).
20. A. Kohen, V. Belakhov and **T. Baasov.** Towards the Synthesis of the Putative Reaction Intermediate in the KDO8P Synthase-Catalyzed Reaction. Synthesis and Evaluation of 3-Deoxy-D-*manno*-2-octulosonate-2-phosphate. *Tetrahedron Lett.* **35**, 3179-3182, (1994).
21. S. Sheffer-Dee-Noor, V. Belakhov and **T. Baasov.** Synthesis of Novel Phosphonate Analogue of KDO as a tool for the design of potent inhibitors of Lipopolysaccharide Biosynthesis. *Tetrahedron Lett.* **35**, 5077-5080, (1994).
22. **T. Baasov** and A. Kohen. Synthesis, Inhibition and Acid-Catalyzed Hydrolysis Studies of Model Compounds of the Proposed Intermediate in the KDO8P Synthase-Catalyzed Reaction. *J. Am. Chem. Soc.* **117**, 6165-6174, (1995).
23. S. Du, D. Plat and **T. Baasov.** A New Model for the Stereoselective Construction of the Kdo Structure Through a Mechanism Similar to that Suggested for the Enzyme Kdo8P Synthase. *Tetrahedron Lett.* **37**, 3545-3548, (1996).
24. Y. Benenson, V. Belakhov and **T. Baasov.** 1-(Dihydroxyphosphynyl)vinyl Phosphate: The Phosphonate Analogue of Phosphoenolpyruvate is a pH-Dependent Substrate of Kdo8P Synthase. *Bioorg. Med. Chem. Lett.* **6**, 2901-2906, (1996).
25. S. Du, D. Plat, V. Belakhov and **T. Baasov.** First Nonenzymatic Synthesis of Kdo8P Through a Mechanism Similar to That Suggested for the Enzyme Kdo8P Synthase. *J. Org. Chem.* **62**, 794-804, (1997).
26. F. W. D'Souza, Y. Benenson and **T. Baasov.** Catalytic Mechanism of Kdo8P Synthase: Synthesis and Evaluation of A Putative Reaction Intermediate. *Bioorg. Med. Chem. Lett.* **7**, 2457-2462, (1997).
27. P-H. Liang, A. Kohen, **T. Baasov** and K. Anderson. Catalytic Mechanism of Kdo8P Synthase: Pre-Steady-State Kinetic Analysis Using Rapid Chemical Quench Flow Methods. *Bioorg. Med. Chem. Lett.* **7**, 2463-2468, (1997).
28. S. Du, H. Tsipori and **T. Baasov.** Synthesis and Evaluation of Putative Oxocarbenium Intermediate Mimic in the Kdo8P Synthase-Catalyzed Reaction as a Tool for the Design of Potent Inhibitors for Lipopolysaccharide Biosynthesis. *Bioorg. Med. Chem. Lett.* **7**, 2469-2474, (1997).
29. A. Mechaly, V. Belakhov, Y. Shoham and T. **Baasov.** An Efficient Chemical-Enzymatic Synthesis of 4-Nitrophenyl β-Xylobioside - A Chromogenic Substrate for Xylanases. *Carbohydr. Res.* **304**, 111-115, (1997).
30. P-H. Liang, J. Lewis, K. S. Anderson, A. Kohen, F. W. D'Souza, Y. Benenson and **T. Baasov.** Catalytic Mechanism of KDO8P Synthase: Transient Kinetic Studies and Evaluation of a Putative Reaction Intermediate. *Biochemistry* **37**, 16390-16399, (1998).
31. Z. Zhang, I. R. Ollmann, X-S. Ye, R. Wischnat, **T. Baasov** and C-H. Wong.Programmable One-Pot Synthesis of Oligosaccharides. *J. Am. Chem. Soc.* **121**, 734-753,(1999).
32. S. Du, H. Faiger, V. Belakhov and **T. Baasov.** Towards the Development of Novel Antibiotics Acting at the Lipopolysaccharide Biosynthesis: Synthesis and Evaluation of a Mechanism-Based Inhibitor of Kdo8P Synthase. *Bioorg. Med. Chem.* **7**, 2671-2682 (1999).
33. L. Kaustov, S. Kababya, S. Du, **T. Baasov,** S. Gropper, Y. Shoham, and A. Schmidt. Direct Identification of Enzyme Active Site Residues by Solid-State REDOR NMR: Application to Kdo8P Synthase. *J. Am. Chem. Soc.* **122**, 2649-2650, (2000).
34. A. Mechaly, A. Teplitsky, V. Belakhov, **T. Baasov,** G. Shoham, and Y. Shoham. Overproduction and Characterization of Seleno-Methionine Xylanase T-6. *J. Biotechnol.* **78**, 83-86, (2000).
35. L. Kaustov, S. Kababya, S. Du, **T. Baasov,** S. Gropper, Y. Shoham, and A. Schmidt. Structural and Mechanistic Investigation of 3-Deoxy-D-*manno*-2-octulosonate-8-phosphate Synthase by Solid-State REDOR NMR. *Biochemistry* **39**, 14865-14876, (2000).
36. V. Belakhov, M. Botoshansky, T. Bravman, M. Kolog,Y. Shoham, E. Dor, J. Hershenhorn, and **T. Baasov.** A Family of Thiomercuric Derivatives of Sugars: Synthesis, Fungicidal/Herbicidal Activity, and Application to the X-Ray Structure Determination of the Corresponding Enzymes. *Isr. J. Chem.* **40**, 177-188, (2000).
37. O. Asojo, J. Friedman, N. Adir, V. Belakhov, Y. Shoham, and **T. Baasov.** Crystal Structures of KDOP Synthase in its Binary Complexes with the Substrate PEP and with a Mechanism-Based Inhibitor. *Biochemistry* **40**, 6326-6334, (2001).
38. G. Zaide, D. Shallom, S. Shulami, G. Zolotnitsky, G. Golan, A. Teplitsky, **T. Baasov,**G. Shoham and Y. Shoham. Biochemical characterization and identification of key catalytic residues in *β*-glucuronidase from *Bacillus stearothermophilus* T-6. *Eur. J. Biochem.* **268**, 3006-3016, (2001).
39. T. Bravman, G. Zolotnitsky, S. Shulami, V. Belakhov, D. Solomon, **T. Baasov,** G. Shoham and Y. Shoham. Stereochemistry of family 52 glycosyl hydrolases: A *β*-xylosidase from *Bacillus stearothermophilus* T-6 is a retaining enzyme. *FEBS Lett.* **495**, 39-43, (2001).
40. T. Bravman, A. Mechaly, S. Shulami, V. Belakhov, **T. Baasov,** G. Shoham and Y. Shoham. Glutamic acid 160 is the acid-base catalyst of **-xylosidase from *Bacillus stearothermophilus* T-6: a family 39 glycosyl hydrolase. *FEBS Lett.* **495**, 115-119, (2001).
41. D. Solomon,M.Fridman,J. Zhang, and **T. Baasov.** A Synthetic Penatasaccharide with GTPase Activity. *Org. Lett.* **3,** 4311-4314, (2001).
42. M.Fridman, D. Solomon, S. Yogev and **T. Baasov.** One-Pot Synthesis of Glucosamine Oligosaccharides. *Org. Lett.* **4**,281-283,(2002).
43. E. Shimoni, **T. Baasov,** U. Ravid and Y. Shoham. The *trans*-Anethile Degradation Pathway in an *Antrobacter Sp.* *J. Biol. Chem.*  **277,** 11866-11872, (2002).
44. D. Shallom, V. Belakhov, D. Solomon, S. Gilead-Gropper, **T. Baasov,** G. Shoham and Y. Shoham. The Identification of the Acid-Base Catalyst of *α*-Arabinofuranosidase from *Bacillus* *Stearothermophillus* T-6, a Family 51 Glycoside Hydrolase. *FEBS Lett.* **514**,163-167, (2002).
45. V. Belakhov, M. Botoshansky and **T. Baasov.** Methyl 2,3-dideoxy-2-S-methylmercurio-2-thio-*β*-D-*manno*-oct-2-ulopyranosonate-(2,6). *Acta Crystallogr.* **C58**, m450-m452, (2002).
46. D. Shallom, V. Belakhov, D. Solomon, G. Shoham, **T.** **Baasov**, Y. Shoham. Detailed Kinetic Analysis and Identification of the Nucleophile in *α*-L-Arabinofuranosidase from Geobacillus stearothermophilus T-6, a Family 51 Glycoside Hydrolase. *J. Biol. Chem.*  **277**, 43667-43673, (2002).
47. L. Kaustov, S. Kababya, V. Belakhov, **T. Baasov**, Y. Shoham, and A. Schmidt. Inhibition Mode of a Bisubstrate Inhibitor of KDO8P Synthase: A Frequency-Selective REDOR Solid-State and Solution NMR Characterization. *J. Am. Chem. Soc.* **125**, 4662-4669, (2003).
48. K. Hövel, D. Shallom, K. Niefind, **T. Baasov**, G. Shoham, Y. Shohamand D. Schomburg. Crystallization and preliminary X-ray analysis of a family 51 glycoside hydrolase, the *α*-L-arabinofuranosidase from *Geobacillus stearothermophilus* T-6. *Acta Crystallogr.* **D59**, 913-915, (2003).
49. T. Bravman, V. Belakhov, D. Solomon, G. Shoham, B. Henrissat, **T. Baasov** and Y. Shoham. Identification of the catalytic residues in family 52 glycoside hydrolase, a β-xylosidase from *Geobacillus stearothermophilus* T-6. *J. Biol. Chem.* **278**, 26742-26749, (2003).
50. E. Shimoni, **T. Baasov**, U. Ravid, and Y. Shoham. Biotransformation of propenylbenzenes by an *Arthrobacter* sp. and its *t*-anetole blocked mutants. *J. Biotechnol.* **105**, 61-70, (2003).
51. L. Kaustov, **T. Baasov**, and A. Schmidt. Binding of the natural substrates and products to KDO8P synthase: 13C and 31P solution NMR characterization*. Bioorg. Chem.* **31**, 306-321 (2003).
52. Z. Li, A. Sau, S. Shen,C. Whitehouse,**T. Baasov**,and K. S. Anderson. A Snapshot of Enzyme Catalysis Using Electrospray Ionization Mass Spectrometry. *J. Am. Chem. Soc.* **125**, 9938-9939, (2003).
53. T. Bravman, G. Zolotnitsky, V. Belakhov, G. Shoham, B. Henrissat, **T. Baasov**, and Y. Shoham. Detailed kinetic analysis of a family 52 glycoside hydrolase: a β-xylosidase from *Geobacillus stearothermophilus.* *Biochemistry* **42**, 10528-10536, (2003).
54. K. Hövel, D. Shallom, K. Niefind, V. Belakhov, G. Shoham, **T. Baasov**, Y. Shoham and D. Schomburg. First crystal structure and snapshots along the reaction pathway of a family 51 glycosidase. *EMBO Journal* **22**, 4922-4932, (2003).
55. M.Fridman, V. Belakhov, S. Yaron, and **T. Baasov.** A new class of branched aminoglycosides: pseudo-pentasaccharide derivatives of neomycin B. *Org. Lett.* **5**, 3575-3578, (2003).
56. S. Shulami, O. Yaniv, E. Rabkin, Y. Shoham, and **T. Baasov**. Cloning, Expression and Biochemical Characterization of 3-Deoxy-D-manno-2-octulosonate-8-phosphate (KDO8P) Synthase from the Hyperthermophilic Bacterium *Aquifex pyrophilus*. *Extremophiles* **7**, 471-481, (2003).
57. V. Belakhov, E. Dovgolevsky, E. Rabkin, S. Shulami, Y. Shoham, and **T. Baasov**. Synthesis and biological activity of a mechanism-based inhibitor of KDO8P synthase. *Carbohydr. Res.* **339**, 385-392, (2004).
58. G. Golan, D. Shallom, A. Teplitsky, G. Zaide, S. Shulami, **T. Baasov,** V. Stojanoff, A. Thompson, Y. Shoham, and G. Shoham. Crystal Structures of Geobacillus stearothermophilus a-Glucuronidase Complexed with Its Substrate and Products. Mechanistic Implications. *J. Biol. Chem.* **279**, 3014-3024, (2004).
59. S. Shulami, C. Furdui, N. Adir, Y. Shoham, K. S. Anderson, and **T. Baasov**. A reciprocal mutation affects the metal requirement of 3-deoxy-D-manno-octulosonate-8-phosphate (KDO8P) synthases from *Aquifex pyrophilus* and *Escherichia coli*. *J. Boil. Chem.* **279**, 45110-45120, (2004).
60. M. Fridman, V. Belakhov, L. V. Lee, F.-S. Liang, C.-H. Wong, and **T. Baasov**. Dual Effect of Synthetic Aminoglycosides: Antibacterial Activity Against *Bacillus anthracis* and Inhibition of Anthrax Lethal Factor. *Angew. Chem. Int. Ed.* **44**, 447-452, (2005). (***Selected by the Editors of the Journal as a HOT PAPER***).
61. D. Shallom, M. Leon, T. Bravman, A. Ben-David, G. Zaide, V. Belakhov, G. Shoham, D. Schomburg, **T. Baasov,** Y. Shoham. Biochemical Characterization and Identification of the Catalytic Residues of a family 43 beta-D-xylosidase from Geobacillus stearothermophilus T-6. *Biochemistry* **44**, 387-397, (2005).
62. C. M. Furdui, A. K. Sau, O. Yaniv, V. Belakhov, R. W. Woodard, **T. Baasov**, K. S. Anderson. The Use of (*E*)- and (*Z*)-Phosphoenol-3-fluoropyruvate as Mechanistic Probes Reveals Significant Differences Between the Active Sites of KDO8P and DAHP Synthases. *Biochemistry* **44**, 7326-7335, (2005).
63. M. Hainrichson, V. Pokrovskaya, D. Shallom, M. Fridman, V. Belakhov, D. Shachar, S. Yaron, and **T. Baasov**. Branched aminoglycosides: biochemical studies and antibacterial activity of neomycin B derivatives. *Bioorg. Med. Chem.* **13**, 5797-5807, (2005).
64. R. Vainer, V. Belakhov, E. Rabkin, A. Sau, C. Furdui, K. S. Anderson, **T. Bassov** and N. Adir.Crystal structures of Escherichia coli KDO8P synthase Complexes Reveal the Source of Catalytic Irreversibility. *J. Mol. Biol.* **351**, 641-652, (2005).
65. I. [Nudelman, A. Rebibo-Sabbah, D. Shallom-Shezifi, M. Hainrichson, I. Stahl, T. Ben-Yosef and **T. Baaso**](http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=pubmed&cmd=Retrieve&dopt=AbstractPlus&list_uids=16997553&query_hl=1&itool=pubmed_docsum)**v**. Redesign of aminoglycosides for treatment of human genetic diseases caused by premature stop mutations. *Bioorg. Med. Chem. Lett.* **16**, 6310-6315, (2006).
66. M. Hainricson, O. Yaniv, M. Cherniavsky, I. Nudelman, D. Shallom-Shezifi, S. Yaron and **T. Bassov.** Overexpression and initial characterization of the chromosomal aminoglycoside 3’-*O*-phosphotransferase APH(3’)-IIb from *Pseudomonas aeruginosa*. *Antimicrob. Agents Chemother*.51, 774-776 (2006).
67. J. Kondo, M. Hainrichson, I. Nudelman, D. Shallom-Shezifi, C. M. Barbieri, D. S. Pilch, E. Westhof and **T. Baasov**. Differential Selectivity of Natural and Synthetic Aminoglycosides towards the Eukaryotic and Prokaryotic Decoding A Sites. *ChemBioChem*, **8**, 1700-1709, (2007). (Including *Cover Picture*).
68. A. Rebibo-Sabbah, I. Nudelman, Z. M. Ahmed, **T. Baasov** and T. Ben-Yosef. *In vitro* and *ex vivo* suppression by aminoglycosides of *PCDH15* nonsense mutations underlying type 1 Usher syndrome. *Hum. Genet.* **122**, 373-381, (2007).
69. O. Menashe, E. Kaganskaya, **T. Baasov**, and S. Yaron. Aminoglycosides affect intracellular *Salmonella enterica* serovars typhimurium and virchow. *Antimicrob. Agents Chemother.* **52**(3), 92-926, (2008).
70. L. Chen,M. Hainrichson, D. Bourdetsky, A. Mor,S. Yaron, and **T. Baasov**. Structure-toxicity relationship of aminoglycosides: Correlation of 2'-amine basicity with acute toxicity in pseudo-disaccharide scaffolds. *Bioorg. Med. Chem*. **16**, 8940-8951, (2008)
71. I. Nudelman, L. Chen, N.M. Llewellyn, El-H. Sahraoui, M. Cherniavsky, J.B. Spenser and **T. Baasov.** Combined chemical-enzymatic assembly of aminoglycoside derivatives with N-1-AHB side chain. *Adv. Synth. Cat.* **350**, 1659-1660, (2008).
72. V. Pokrovskaya, V. Belakhov, M. Hainrichson, S. Yaron and **T. Baasov.** Design, synthesis, and evaluation of novel fluoroquinolone-aminoglycoside hybrid antibiotics. *J. Med. Chem*. **52**, 2243-2254, (2009).
73. I. Nudelman, A. Rebibo-Sabbah, M. Cherniavsky, V. Belakhov, M. Hainrichson, F. Chen, J. Schacht, D. Pilch, T. Ben-Yosef and **T. Baasov.** Development of novel aminoglycoside (NB54) with reduced toxicity and enhanced suppression of disease-causing premature stop mutations. *J. Med. Chem*. **52**, 2836-2845, (2009).
74. I. Nudelman, D. Glikin, B. Smolkin, M. Hainrichson, V. Belakhov and **T. Baasov.** Repairing faulty genes by amino glycosides: Development of new derivatives of geneticin (G418) with enhanced suppression of diseases-causing nonsense mutations. *Bioorg. Med. Chem*. **18**, 3735-3746, (2010).
75. V. Pokrovskaya and **T. Baasov.** Dual-acting hybrid antibiotics: a promising strategy to combat bacterial resistance. *Expert Opinion in Drug Discovery.* **5**(9), 883-903, (2010).
76. T. Goldman, A. Rebibo-Sabbah, N. Overlack, I. Nudelman, V. Belakhov, **T. Baasov**, T. Ben-Yosef, U. Wolfrum and K. Nagel-Wolfrum. Designed aminoglycoside NB30 induces beneficial read-through of a *USH1C* nonsense mutation in the retina. *Investigative Ophthalmology & Visual Science*, **51**(12), 6671-6680, (2010).
77. C. Brendel, V. Belakhov, H. Werner, E. Wegener, J. Gaertner, I. Nudelman, **T. Baasov**, P. Huppke. Readthrough of Nonsense Mutations in Rett Syndrome: Evaluation of novel aminoglycosides and generation of a new mouse model. *Journal Molecular Medicine*, **89**, 389-398, (2011).
78. J. Kandasamy, D. Atia-Glikin, V. Belakhov, **T. Baasov.** Repairing faulty genes by aminoglycosides: Identification of new pharmacophore with enhanced suppression of diseases-causing nonsense mutations. *Medicinal Chemistry Communications,* **2**, 165-171 (2011).
79. S.M. Rowe, L.P. Tang, P. Sloane, K.Backer, M. Mazur, J. Buck;ey-Lauriel, I. Nudelman, V. Belakhov, Z. Belok, E. Schwiebert, **T. Baasov**, D.M. Bedwell. Suppression of *CFTR* Premature Termination Codons and Rescue of CFTR Protein and Function by the Synthetic Aminoglycoside NB54. *Journal Molecular Medicine*, **89**, 1149-1161, (2011)
80. M. Vecsler, B. Ben Zeev, I. Nudelman, Y. Anikster, A. J. Simon, N. Amariglio, G. Rechavi, **T. Baasov**, E. Gak. [Ex Vivo Treatment with a Novel Synthetic Aminoglycoside NB54 in Primary Fibroblasts from Rett Syndrome Patients Suppresses MECP2 Nonsense Mutations](http://apps.webofknowledge.com/full_record.do?product=WOS&search_mode=GeneralSearch&qid=3&SID=1Ecb5@c8GkCf@BNJNjm&page=1&doc=2). *PLoS ONE*, **6** (6), e20733 (2011).
81. H-L. R. Lee, C-C. Chen, **T. Baasov,** Y. Ron, J. P. Dougherty. Post-transcriptionally Regulated Expression System in Human Xenogeneic Transplantation Models. *Molecular Therapy*, **19**(9), 1645-1655 (2011).
82. D. Wang, V. Belakhov, J. Kandasamy, **T. Baasov**, S-C. Li, Y-T Li, D.M. Bedwell, K.M. Keeling. The designer aminoglycoside NB84 significantly reduces glycosaminoglycan accumulation associated with MPS I-H in the Idua-W392X mouse. *Molecular Genetics and Metabolism*, **105**, 116-125 (2012).
83. T. Goldmann, N. Overlack, F. Möller, V. Belakhov, M. van Wyk, **T. Baasov**, U. Wolfrum, and K. Nagel-Wolfrum. A comparative evaluation of NB30, NB54 and PTC124 in translational read-through efficacy for treatment of an USH1C nonsense mutation. *EMBO Molecular Medicine*, **4**, 1-14 (2012).
84. J. Kandasamy, D. Atia-Glikin, E. Shulman, K. Shapira, M. Shavit, V. Belakhov **T. Baasov**. [Increased Selectivity toward Cytoplasmic versus Mitochondrial Ribosome Confers Improved Efficiency of Synthetic Aminoglycosides in Fixing Damaged Genes: A Strategy for Treatment of Genetic Diseases Caused by Nonsense Mutations.](http://www.ncbi.nlm.nih.gov/pubmed/23148581) *J. Med. Chem***. 55**(23), 10630-10643 (2012).
85. M. Schalev, J. Kandasamy, N. Skalka, V. Belakhov, R. Rosin-Arbesfeld, **T. Baasov**. [Development of generic immunoassay for the detection of a series of aminoglycosides with 6′-OH group for the treatment of genetic diseases in biological samples](http://www.sciencedirect.com/science/article/pii/S0731708512006267). *Journal of Pharmaceutical and Biomedical Analysis*. **75**, 33-40 (2013).
86. K.M. Keeling, D. Wang, Y. Dai, S. Murugesan, B. Chenna, J. Clark; V. Belakhov, J. Kandasamy, S.E. Velu, **T. Baasov**, D.M. Bedwell. Attenuation of Nonsense-Mediated mRNA Decay Enhances In Vivo Nonsense Suppression. *PLoS ONE* **8** (4), e60478 (2013).
87. M. Schalev, J. Kondo, D. Kopelyanskiy, C.L. Jaffe, N. Adir, **T. Baasov**. Identification of the molecular attributes required for Aminoglycoside activity against *Leishmania*. *PNAS* **110** (33), 13333-13338 (2013).
88. M. Kamei, K. Kasperski, M. Fuller, E. Parkinson-Lawrence, L. Karageorgos,, V. Belakhov, **T.** **Baasov**, J.J. Hopwood, D.J. Brooks. Aminoglycoside-Induced Premature Stop Codon Read-Through of Mucopolysaccharidosis Type I Patients Q70X and W402X Mutations in Cultured Cells. *Journal of Inherited Metabolic Disease Reports*. **13**, 139-147 (2014).
89. X. Xue, V. Mutyam, L.P. Tang, S. Biswas, M. Du, L. A. Jackson, Y. Dai, V. Belakhov, M. Shalev, F. Chen, J. Schacht, R. Bridges, **T. Baasov**, J. Hong, D. M. Bedwell, S.M. Rowe. Synthetic Aminoglycosides Efficiently Suppress CFTR Nonsense Mutations and Are Enhanced by Ivacaftor. *Am. J. Respir. Cell Mol. Biol.* **50** (4), 805-816 (2014).
90. E. Shulman, V. Belakhov, G. Wei, A. Kendall, E. G. Meyron-Holtz, D. Ben-Shachar, J. Schacht, **T. Baasov**. Designer aminoglycosides that selectively inhibit cytoplasmic rather than mitochondrial ribosomes show decreased ototoxicity: a strategy for the treatment of genetic diseases. *J. Biol. Chem*. **289**(4), 2318-2330 (2014).
91. G. Gunn, Y. Dai, M. Du, V. Belakhov, J. Kandasamy, T.R. Schoeb, **T. Baasov**, D.M. Bedwell, K.M. Keeling. Long-term nonsense suppression therapy with NB84 moderates MPS IH disease progression. *Molec. Genet. Metabol.* **111**, 374-381 (2014).
92. R. Dann, S. Lansky, N. Lavid, A. Zehavi, V. Belakhov, **T. Baasov**, H. Dvir, B. Manjasetty, H. Belrhali, Y. Shoham, G. Shoham. Preliminary crystallographic analysis of Xyn52B2, a GH52 β-D-xylosidase from *Geobacillus stearothermophilusT6*. *Acta Cryst.* **F70**, 1675–1682 (2014).
93. M. Schalev, H. Rozenberg, B. Smolkin, A. Nasereddin, D. Kopelyanskiy, V. Belakhov, T. Schrepfer, J. Schacht, C. L. Jaffe, N. Adir, **T. Baasov**. Structural Basis for Selective Targeting of Leishmanial Ribosomes: Aminoglycoside Derivatives as Promising Therapeutics. *Nucleic Acids Research*, **43**(17), 8601-8613 (2015).
94. K.K. Wang, L.K. Stone, T.D. Lieberman, M. Shavit, **T. Baasov**\*, **R. Kishony**\*. A Hybrid Antibiotic Restricts Evolutionary Paths to Resistance. *Mol. Biol. Evol.* **33**(2), 492-500 (2016).
95. N.M. Sabbavarapu, M. Shavit, Y. Degani, B. Smolkin, V. Belakhov, **T. Baasov**. Design of Novel Aminoglycoside Derivatives with Enhanced Suppression of Diseases-Causing Nonsense Mutations. *ACS Med. Chem. Lett.* **7**, 418-423 (2016).
96. F. Meng, D. Srisai, X. Zhou, W. Cheng, S. Dong, V. Belakhov, Y. Xu,R.D. Palmiter,**T. Baasov**, Qi Wu. **A new inducible genetic method reveals critical roles of GABA in the control of feeding and metabolism**. *PNAS* **113** (13), 3645-3650 (2016).
97. L. Bidou, O. Bugaud, V. Belakhov, **T. Baasov**, O. Namy. Characterization of new-generation aminoglycoside promoting premature termination codon readthrough in cancer cells. *RNA Biology* **14**, 378-388 (2017).
98. M. Shavit, V. Pokrovskaya, V. Belakhov and **T. Baasov**. Covalently linked kanamycin-ciprofloxacin hybrid antibiotics as a tool to fight bacterial resistance. *Bioorg. Med. Chem.* **25**, 2917-2925 (2017).
99. N.M. Sabbavarapu, T. Pieńko, B-H. Zalman, J. Trylska, **T. Baasov**. Exploring Eukaryotic Versus Prokaryotic Ribosomal RNA Recognition with Aminoglycoside Derivatives. *Med. Chem. Commun.* **9**, 503-508 (2018).
100. B. Smolkin, A. Vilevsky, T. Pieńko, M. Shavit, V. Belakhov, J. Trylska, **T. Baasov**. Towards Catalytic Antibiotics: Redesign of Aminoglycosides to Catalytically Dysable Bacterial Ribosome. *ChemBioChem* **20**, 247-259 (2019).
101. S. Shulami, A. Zehavi, V. Belakhov, R. Salama, S. Lansky, **T. Baasov**, G. Shoham, Y. Shoham. Cross-utilization of -Galactosides and Cellobiose in *Geobacillus stearothermophilus.**J. Biol. Chem.* **295** (31), 10766-10780 (2020).
102. M.N. Goldmeier, S. Katz, F. Glaser, V. Belakhov, A. Khononov, **T. Baasov**. Towards Catalytic Antibiotics: Redesign of Fluoroquinolones to Catalytically Fragment Chromosomal DNA*. ACS Infectious Diseases*, **7**, 608-623 (2021).
103. M.N. Goldmeier, A. Khononov, V. Belakhov, T. Pieńko, N. Orbach, Y.G. Barzilay, **T. Baasov**. A Dynamic Intramolecular Cap for Preserving Metallodrug Integrity – a Case of Catalytic Fluoroquinolones. *Journal Medicinal Chemistry*, **65** (20), 14049-14065 (2022).
104. K-S. Fung, A.A. Joseph, A. Khononov, T. Pieńko, V. Belakhov, **T. Baasov**. Towards catalytic aminoglycoside: Probing the modification of kanamycin B at the 3’- and 4’-positions. *Tetrahedron* **136**, 133342, (2023).
105. S. Guchhait, A. Khononov, T. Pieńko, V. Belakhov, **T. Baasov**. Balancing Nonsense Mutation Readthrough and Toxicity of Designer Aminoglycosides for Treatment of Genetic Diseases. *ACS Medicinal Chemistry Letters*, In press (2023). DOI: 10.1021/acsmedchemlett.3c00089.

**Reviews**

1. **T. Baasov** and V. Belakhov. Studies Towards the Synthesis and Evaluation of Mechanism-Based Inhibitors of Kdo8P Synthase-A Key Enzyme in the Biosynthesis of Lipopolusaccharides *Recent Res. Dev. Org. Chem.* **3**, 195-206, (1999). ***Invited Review***
2. **T. Baasov** and V. Belakhov. Towards a New Class of Synthetic Antibacterials Acting on Lipopolysaccharide Biosynthesis. *Drug Dev. Res.* **50**, 416-424, (2000). ***Invited Review***
3. **T. Baasov,** R. Tkacz, S. Sheffer-Dee-Noor, and V. Belakhov. Catalytic Mechanism of 3-Deoxy-D-*manno*-2-octulosonate-8-phosphate Synthase. *Curr. Org. Chem.*  **5**, 127-138, (2001). ***Invited Review***
4. M. Hainrichson, I. Nudelman, and **T. Baasov**. Designer Aminoglycosides: The Race to Develop Improved Antibiotics and Compounds for Treatment of Human Genetic Diseases. *Organic & Biomolecular Chemistry*, **6, 227-239, (2008). *Invited Review Perspective Article*** (Including *Cover Picture*).
5. M. Shalev, **T. Baasov.** When Proteins Start to Make Sense: Fine-tuning of Aminoglycosides for PTC Suppression Therapy. *Med. Chem. Commun.* **5**, 1092-1105 (2014). ***Invited Review Perspective article.***
6. K. Nagel-Wolfrum, F. Möller, I. Penner, **T. Baasov**, U. Wolfrum. Targeting Nonsense Mutations in Diseases with Translational Read-Through-Inducing  
   Drugs (TRIDs). *BioDrugs* **30**(2):49-74 (2016). (DOI 10.1007/s40259-016-0157-6).

Chapters in Books and other Publications

1. S. Abramson, **T. Baasov,** B. Fuchs. Photochemical Behavior of -Unsaturated Carbonyl Compounds. Proceedings of the 7th IUPAC Symposium on Photochemistry, Katholieke Univ. Leuvain, Louvain, Belgium (1978). *Proc.- 7th* *IUPAC Symp. Photochem.,* 1-4, (1978).
2. M. Ottolenghi, V. Rosenbach, **T. Baasov,** N. Friedman and M. Sheves. On the Molecular Mechanism of the Photocycle of Bacteriorhodopsin. *Laser Chem.*, 1983, Gordon and Branch Sciences Publishers Ltd., pp. 829-840.
3. M. Scheves, A. Albeck, **T. Baasov,** N. Friedman and M. Ottolenghi. The Binding Site and Molecular Changes in the Photocycle of Bacteriorhodopsin: Studies with Synthetic Retinal Analogues. Proceedings of "Symposium on Retinal Proteins", Irkutsk, Russia, July 1986. *Retinal Proteins,* pp. 205-216, VNU Science Press 1987.
4. V. Pokrovskaya, I. Nudelman, J. Kandasamy and **T. Baasov**. Aminoglycosides: Redesign Strategies for Improved Antibiotics and Compounds for Treatment of Human Genetic Diseases. *Methods in Enzymology.* **478** (Glycomics), 437-462,(2010).
5. V. Mutyam, X. Xue, X. Jackson, L. Hong, S. Biswas, D. Bridges, **T. Baasov**, V. Belakhov, D. Bedwell, S. Rowe. Use of transepithelial conductance as a screening technique for identification of drugs that promote readthrough of premature stop codons. *Pediatric Pulmonology* 48, page 232 (supplement 36; meeting abstract). ISSN: 8755-6863 (2013).
6. K. Nagel-Wolfrum, **T. Baasov**, U. Wolfrum. Therapy strategies for Usher syndrome Type 1C in the retina. *Advances in experimental medicine and biology*.Vol. 801, pp. 741-747 (2014).
7. **T. Baasov**, M. Fridman. [Foreword-The 17th European Carbohydrate Symposium-EuroCarb17](http://apps.webofknowledge.com/full_record.do?product=UA&search_mode=GeneralSearch&qid=1&SID=Z1xlHVydllc9BIh4Lio&page=1&doc=1). *Carbohydrate Research* **389**, 1 (2014). (Guest Editor of the special issue.)
8. S. Garneau-Tsodikova, **T. Baasov**. Editorial – Guest editors of the special themed issue - Carbohydrates. *Med. Chem. Commun*., **5**, 1010-1013 (2014).
9. **T. Baasov**, Micha Fridman and Daniel Werz. Carbohydrates: Special Issue in Honor of the 2014 Wolf Prize Laureate in Chemistry, Professor Chi-Huey Wong. Guest Editors of the special issue. Editorial - *Isr. J. Chem.* **55**, 253 (2015).

### **PATENTS**

1. Chi-Huey Wong, Zhiyuan Zhang, Ian R. Ollmann, **Timor Baasov** and Xin-Shan Ye. Programmable One-Pot Oligosaccharide Synthesis and Structural Effects of Monosaccharides on the Anomeric Glycosylation Reactivity. **US patent No: 6,538,117 B1:** March 25, **2003** (approval date).
2. MichaFridman, Valery Belakhov, Sima Yaron, and **Timor Baasov.** A New Class of Branched Aminoglycosides: Pseudo-Pentasaccharide Derivatives of Neomycin B. Accepted as a provisional patent, June 2003. Israel patent application Ref No 26420. USA application No. 60/484,293.
3. MichaFridman, Valery Belakhov, Sima Yaron, and **Timor Baasov.** Bifunctional Antibiotics for Targeting rRNA and Resistance-Causing Enzymes. Complete US Patent Appl. No. 10/829,976 filed Apr. 23, 2004. PCT Patent Appl. No. PCT/IL2004/000490 filed June 9, **2004**.
4. MichaFridman, Valery Belakhov, Sima Yaron, and **Timor Baasov.** Bifunctional Antibiotics for Targeting rRNA and Resistance-Causing Enzymes and for Inhibition of Anthrax Lethal Factor. US Patent Application No. US 60/608,372. Filing License Granted: November 03, 2004. **US 7,635,685 B2** (Dec. 2009); **EP 1 789 429 B1.**
5. **Timor Baasov,** Tamar Ben-Yosef, Igor Nudelman, Annie Rebibo-Sabbah, Dalia Shallom-Shezifi, Marina Hainrichson. Redesign of aminoglycosides for treatment of human genetic diseases caused by premature stop mutations, *US Provisional patent application*; File ref. no: 31728-816-PRO. **2006**.
6. **Timor Baasov**, Tamar Ben-Yosef, Igor Nudelman, Annie Rebibo-Sabbah, Dalia Shallom-Shezifi, Marina Hainrichson. Novel aminoglycosides and uses thereof in the treatment of genetic disorders. PCT Intern. Appl. WO 2007113841 A2 20071011. Publication date: 11/10/**2007**, 135 pp.
7. **Timor Baasov**, Tamar Ben-Yosef, Igor Nudelman, Annie Rebibo-Sabbah, Dalia Shallom-Shezifi, Marina Hainrichson. Novel aminoglycosides and uses thereof in the treatment of genetic disorders. US Pat. Appl. Publ. (**2009**), 78pp. Cont.-in-part of Appl. No. PCT/IL2007/000463. US 2009093418 A1 20090409.
8. **Timor Baasov**, Varvara Pokrovskaya, Valery Belakhov and Mariana Hainrichson. Preparation of conjugated aminodeoxy oligosaccharides via click chemical reaction as antimicrobial agents. Ref: 48166 (Technion Ref: 1049) PCT Patent Application No. PCT/IL2010/000257 filed 25 March **2010** by Technion Research & Development Foundation Ltd. PCT Int. Appl. (2010), 120pp. WO 2010113151 A1; 20101007 CAN 153:481366 AN 2010: 1255580.
9. **Timor Baasov:** Repairing faulty genes by aminoglycosides: Identification of new pharmacophore with enhanced suppression of diseases-causing nonsense mutations. US Provisional Patent Application; Nov. 18, 2010; Application NO: 61/414,956; PCT Patent Application 51817/1302. Nov. 2011.
10. **Timor Baasov,** Dana Atia-Glikin, Jeyakumar Kandasamy and Valery Belakhov. *Aminoglycosides and Uses thereof in Treating Genetic Disorders*. PCT Patent Application No. PCT/IL2011/000889, filled 17 November 2011 by Technion Research & Development Foundation Ltd. PCT Int. publication date 24 May **2012**, Application NO: 61/414,956; PCT Patent Application **WO 2012/066546 A1**.
11. **Timor Baasov,** Dana Atia-Glikin, Jeyakumar Kandasamy and Valery Belakhov. *Aminoglycosides and Uses thereof in Treating Genetic Disorders*. **US 08895519** **B2** published Nov 25 2014.
12. **Timor Baasov**, Varvara Pokrovskaya, Valery Belakhov and Mariana Hainrichson.”Conjugated Antimicrobial Agents”. Patent No: **US 8,809,286 B2**; Date of Patent: Aug. 19, 2014.
13. **Timor Baasov**, Varvara Pokrovskaya, Valery Belakhov and Mariana Hainrichson.”Conjugated Antimicrobial Agents”. US Patent Published Oct. 6, 2015; **US 9,149,536 B2.**
14. **Timor Baasov**, Varvara Pokrovskaya, Valery Belakhov and Mariana Hainrichson.”Conjugated Antimicrobial Agents”. European Patent Specification; March 23, 2016; **EP 2 413 974 B1.**
15. **Timor Baasov,** Dana Atia-Glikin, Jeyakumar Kandasamy and Valery Belakhov. *Aminoglycosides and Uses thereof in Treating Genetic Disorders*. **US 9,616,079B2** published Apr. 11 2017.
16. **Timor Baasov.** *Aminoglycosides and Uses thereof in Treating Genetic Disorders*. **US 2018/0177812 A1** published Jun. 28, 2018.
17. **Timor Baasov,** Dana Atia-Glikin, Jeyakumar Kandasamy and Valery Belakhov. *Aminoglycosides and Uses thereof in Treating Genetic Disorders*. **US 2018/0200276 A1** published Jul. 19, 2018.
18. **Timor Baasov.** *Aminoglycosides and Uses thereof in Treating Genetic Disorders*. **US 2018/0265535 A1** published Sept. 20, 2018.
19. **Timor Baasov** andShmuel Tuvia*. Aminoglycosides and Uses thereof in Treating Genetic Disorders*. **US 2018/0282361 A1** published Oct. 4, 2018.
20. **Timor Baasov,** Firzon Vera, Belakhov Valery, Eylon Bat-Hen.*Aminoglycoside Derivatives and Uses thereof in Treating Genetic Disorders*. **WO 2018/225065 A1** published December 13, 2018.
21. **Timor Baasov**, Boris Smolkin, Alina Vilevsky, Tomesz Pieńko, Michal Shavit, Valery Belakhov, Joanna Trylska. Towards Catalytic Antibiotics: Redesign of Aminoglycosides to Catalytically Disable Bacterial Ribosome.Provisional Patent application No: 62770761; attorney Docket Number:07035-P0122A; 22 Nov, 2018.
22. **Timor Baasov**, Boris Smolkin, Alina Khononov, Michal Shavit-Kishkover, Valery Belakhov. Modified Aminoglycoside Compounds and Uses thereof in Disabling Bacterial Ribosome. US 62/770,761; PCT Application 28.11.2019; PCT published - WO2020105054 A1 on 28.05.2020. US 2021/0275557 A1 published on Sep. 9, 2021.
23. **Timor Baasov**, Valery Belakhov and Moshe Nissim Goldmeier. Modified Fluoroquinolones and Uses Thereof. US provisional patent application No. 63/137,300; filed on January 14, 2022, attorney docket No. 83567. PCT published on 21.07.2022, WO 2022/153310 A1.

**COMMENTARIES ON PUBLISHED WORK**

1. Commentary in Science on publication #31 in J. Am. Chem. Soc., by Robert F. Service: *“Cooking Up Sugar Chains in a Hurry”* The section in Focus: Science, 283 (issue of Feb. 12), 911-913, (1999).
2. Commentary in Chemical & Engineering News on publication #31 in J. Am. Chem. Soc., by Stu Borman: *“Oligosaccharides Made to Order”* Chem. & Eng. News pp. 30-31, March 22, (1999).
3. **T. Baasov.** *“REVIVING ANTIBIOTIC MIRACLE?!”* in the1998-1999 Biennial Report of BSF. Selected by BSF (USA-Israel Binational Science Foundation) as a particular tradition-breaking research work by BSF grantee.
4. **T. Baasov.** “*ACTIVE SUGARS: IN SEARCH OF POLYSACCHARIDE CATALYSTS,”* in the 2002-2003 annual report of Israel Science Foundation (ISF), pages 38-39, 2003. Selected by ISF to highlight a particular tradition-breaking research work in organic chemistry by ISF grantee.
5. RSC-*Advancing the Chemical Sciences*; Chemistry World News: **Repairing Faulty Genes** - commentary on the publication #78., in MedChemComm by Amaya Camara-Campos.

**CONTRIBUTION OF SEQUENCES TO THE GENE DATA BANK**

1. AY135660: 12.7 kb sequence of hyperthermophilic bacterium Aquifex pyrophilus, containing kdsA gene that encodes for KDO8P synthase. Shulami Smadar, Orit Yaniv, Yuval Shoham, and **Timor Baasov**. 2003.

**CONTRIBUTION OF STRUCTURES TO THE PROTEIN DATA BANK (PDB)**

* + - 1. **1G7V:** Crystal structure of the *E. coli* KDO8P Synthase in its binary complex with the mechanism-based inhibitor. (2001)
      2. **1G7U:** Crystal structure of the *E. coli* KDO8P Synthase in its binary complex with the substrate phosphoenol pyruvate. (2001)
      3. **1Q3N:** Crystal structure of the *E. coli* KDO8P Synthase in its binary complex with the substrate phosphoenol pyruvate. (2003)
      4. **1PHQ:** Crystal structure of the *E. coli* KDO8P Synthase in its binary complex with the alternative substrate (Z)-3-fluoro-phosphoenolpyruvate. (2003)
      5. **1PHW:** Crystal structure of the *E. coli* KDO8P Synthase in its binary complex with the alternative substrate (E)-3-fluoro-phosphoenolpyruvate. (2003)
      6. **1PL9:** Crystal structure of the *E. coli* KDO8P Synthase in its binary complex with the mechanism-directed inhibitor 1-deoxy-D-arabino-5-phosphate. (2003)
      7. **1PZ3:** Crystal structure of the family 51 α-L-arabinofuranosidase from *Geobacillus stearothermophilus*. (2003)
      8. **YYY:** Crystal structure of the family 51 α-L-arabinofuranosidase from *Geobacillus stearothermophilus* in complex with 4-nitrophenyl-L-arabinose. (2003)
      9. **ZZZ:** Crystal structure of the family 51 α-L-arabinofuranosidase from *Geobacillus stearothermophilus* in complex with L-arabinose--(1,3)-xylose. (2003)
      10. **1PZ2:** Crystal structure of the family 51 α-L-arabinofuranosidase from *Geobacillus stearothermophilus* in complex with covalent intermediate. (2003)
      11. **1K9D:** Crystal structure of α-glucuronidase from *Geobacillus stearothermophilus*. (2003)
      12. **1K9E:** Crystal structure of α-glucuronidase E285N mutant from *Geobacillus stearothermophilus* in complex with methylglucuronic acid. (2003)
      13. **1L8N:** Crystal structure of α-glucuronidase from *Geobacillus stearothermophilus* in complex with the enzymatic reaction products. (2003)
      14. **1K9F:** Crystal structure of α-glucuronidase E285N mutant from *Geobacillus stearothermophilus* in complex with aldotetraouronic acid. (2003)
      15. **1MQR:** Crystal structure of α-glucuronidase E386Q mutant from *Geobacillus stearothermophilus*. (2003)
      16. **4K31 (**RCSB ID code rcsb078827): 'Crystal structure of apramycin bound to the leishmanial rRNA A-site' (2013)
      17. **4K32 (**RCSB ID code rcsb078828): 'Crystal structure of geneticin bound to the leishmanial rRNA A-site' (2013)
      18. **4ZC7 (**PDB ID code): ): 'Crystal structure of paromomycin bound to the leishmanial rRNA A-site' (2015)