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Qualifications

- Broad experience in medicinal chemistry spanning most therapy areas
- Detailed knowledge in the area of prodrugs
- Directed multi-disciplinary project teams, several of them through preclinical development to entry into man
- Managed external alliances and outsourcing contracts as well as internal global project teams
- Successfully consulted for several biotech companies for lead identification and lead optimization programs

Biography

- Professional Experience:

7/10 – present: Principal, Chemistry & Drug Discovery Consulting, LLC. Advising biotech companies in the United States and in Europe on all aspects of medicinal chemistry.

1/03 – 6/10 Vice President and Deputy Head of Chemistry, Roche Palo Alto, LLC. Responsible for computational chemistry and a purifications group in addition to medicinal chemistry groups working on CNS or virology projects. Project leader of two pre-clinical CNS project teams, one of which with an outside alliance partner. Leader of a Roche global task force on lead generation. Co-manager of the department budget of over $30M.

5/01 – 12/02 Vice President, Medicinal Chemistry, Neurobiology Unit, Roche Bioscience, Palo Alto. Responsibility for medicinal chemistry, including parallel synthesis and computational chemistry, and on a temporary basis (6 months) for the metabolism and pharmacokinetics group.

4/00 – 4/01 Director Medicinal Chemistry, Neurobiology Unit, Roche Bioscience, Palo Alto, CA. Responsibility for medicinal chemistry, parallel synthesis for lead optimization and computational chemistry.

10/99 – 4/00 Acting Director, Medicinal Chemistry, Neurobiology Unit, Roche Bioscience, Palo Alto, CA.

6/96 – 9/99: Senior Research Scientist, Neurobiology Unit, Roche Bioscience, Palo Alto, CA. Leader of a group engaged in the synthesis of novel ligands for biogenic amine receptors. Responsible for the computational chemistry group and for setting-up a new parallel synthesis lab in the Neurobiology unit. Primary contact person for combinatorial chemistry alliance with third party organization. Chemistry and later project leader for a lead

optimization program directed at an incontinence target.

7/95 – 5/96: Principal Scientist and Program Leader, Neurobiology Unit, Roche Bioscience, Palo Alto, CA. Leader of a program on novel analgesics for the treatment of neuropathic pain.

10/94 - 6/95: Principal Scientist, Institute of Organic Chemistry, Syntex Discovery Research, Palo Alto, CA. Leader of a medicinal chemistry group with the focus on novel analgesic agents and project team leader for the pre-clinical development of a prodrug of the antiviral agent Ganciclovir.

8/85 - 9/94: Research Section Leader, Institute of Bio-organic Chemistry, Syntex Research, Palo Alto, CA. Leader of a group engaged in the synthesis of novel anti-viral and immunosuppressive agents. Directed a task force during the early development phase of a potential anti-HIV agent. Co-leader of a program on novel immunosuppressive agents targeting the de-novo biosynthesis of purine nucleosides. Administrator of a CADD Workstation for the department.

10/83 - 7/85: Research Fellow, Hoffmann-LaRoche Inc. Nutley N.J. Synthesis of 7-Fluoro-prostacyclins.

8/82 - 9/83: Assistant Research Group Chief, Hoffmann-LaRoche Inc. Nutley, N.J. Synthesis of 7-Fluoro-prostacyclins.

8/81 - 7/82: Visiting Scientist, F. Hoffmann-LaRoche & Co. AG. Basel, Switzerland. Synthesis of novel dihydrofolate reductase inhibitors.

10/80 - 7/81: Assistant Research Group Chief, Hoffmann-LaRoche Inc. Nutley N.J. Synthesis of prostaglandins.

8/75 - 9/80: Senior Scientist, Hoffmann-LaRoche Inc. Nutley, N.J.; Studies on the total synthesis of the antibiotic Bicyclomycin, synthesis of heterocyclic compounds as thromboxane synthetase inhibitors and CNS agents, synthesis of ß-lactam compounds as ß-lactamase inhibitors.

- Education:

11/73 - 7/75: Postdoctoral Fellow at California Institute of Technology, Pasadena, CA in the group of Prof. Robert E. Ireland; Studies on the synthesis of the steroidal antibiotic Fusidic acid.

1969 - 1973: Graduate research under the direction of Prof. Albert Eschenmoser; Federal Institute of Technology (ETH). Dr. Sc. Techn. awarded October 1973; Thesis entitled: "Total Synthesis of Vitamin B_{12}: Dicyano-Co(III)-cobyrinic acid hexamethyl ester f-amide".

1965 - 1969: Undergraduate studies in chemistry at the Federal Institute of Technology (ETH), Zürich, Switzerland. Diploma in Chemistry October 1969; Diploma thesis under the direction of Prof. Duilio Arigoni (ETH) on the allylic Meisenheimer rearrangement.

- Teaching Experience:

Spring Quarter 1995, Spring Quarter 1996 and Winter Quarter 1997: Consulting Professor, Department of Chemistry, Stanford University, Stanford, CA. Teaching introductory organic chemistry courses (Chem. 33 or Chem. 35).

Publications

1. Schreiber J.; Maag H.; Hashimoto N.; Eschenmoser A. "Dimethyl-(methylene) ammonium iodide", **Angew. Chem. Int. Ed. Engl. 10**, 330-1(1971).

2. Ireland R.E.; Beslin, P.; Giger, R.; Hengartner, U.; Kirst, H.A.;Maag, H. "Studies on the Total Synthesis of Steroidal Antibiotics. 2. Two Convergent Schemes for the Synthesis of Tetracyclic Intermediates", **J. Org. Chem. 42**, 1267-1276 (1977).

3. Maag, H.; Blount, J.F.; Coffen, D.L.; Steppe, T.V.; Wong, F. "Structure, Absolute Configuration, and Total Synthesis of an Acid-Catalyzed Rearrangement Product of Bicyclomycin", **J. Amer. Chem. Soc. 100**, 6786-6788, (1978).

4. Maag, H.; Locher, R.; Daly, J.J.; Kompis, I. "5-(N-Arylnortropan-3-yl)- and 5-(N-Arylpiperidin-4-yl)-2,4-diaminopyrimidines. Novel Inhibitors of Dihydrofolate Reductase." **Helv. Chim. Acta 69**, 887-97, (1986).

5. Maag, H.; Rydzewski, R.M.; McRoberts, M.J.; Crawford-Ruth, D.; Verheyden, J.P.H.; Prisbe, E.J. "Synthesis and Anti-HIV Activity of 4'-Azido- and 4'-Methoxynucleosides." **J. Med. Chem. 35**, 1440-1451 (1992).

6. Maag, H.; Rydzewski, R.M. "An Allylic Azide Route to 4'-Azido Carbocyclic Nucleosides. Synthesis of (±)-(1'a,2'a,3'b)- and (±)-(1a',2'b,3'b)-1-[1-Azido-2-hydroxy-1-(hydroxymethyl)-3-cyclopentyl]thymine." **J. Org. Chem. 57**, 5823-5831 (1992).

7. Prisbe, E.J.; Maag, H.; Verheyden, J.P.H.; Rydzewski, R.M. "Structure-Activity Relationships of HIV Inhibitory, 4'-Substituted Nucleosides." In *Nucleosides and Nucleotides as Antitumor and Antiviral Agents;* Chu, C.K.; Baker, D.C. Eds.; Plenum Publishing Corp.: New York, 1993.

8. Maag, H.; Gutierrez, A.J.; Prisbe, E.J.; Rydzewski, R.M.; Verheyden, J.P.H. "4'-Substituted Nucleosides as Antiviral Agents." In *Antibiotics and Antiviral Compounds*; Krohn, K.; Kirst, H.A.; Maag, H. Eds.; VCH Publishers; Weinheim, 1993.

9. Maag, H.; Nelson, J.T.; Rios Steiner, J.L.; Prisbe, E.J. "Solid State and Solution Conformation of the Potent HIV Inhibitor, 4'-Azidothymidine." **J. Med Chem. 37**, 431-438 (1994).

10. Maag, H.; Schmidt, B.; Rose S.J. "Oligodeoxynucleotide Probes with Multiple Labels Linked to the 4'-Position of Thymidine Monomers: Excellent Duplex Stability and

Detection Sensitivity", **Tetrahedron Lett. 35**, 6449-6452 (1994).

11. Dillon, M.P.; Maag, H.; Muszynski, D.M. "The Regioselective Opening of 5-*O*-Benzyl-1,2:3,4-*O*-isopropylidene-D-psicofuranose With Organostannanes", **Tetrahedron Lett. 36**, 5469-5470 (1995).

12. Ernst, L.; Maag, H. "Preparation and Structure Proof of the Four Isomeric Dicyanocobyrinic Acid Hexamethyl Ester Monoamides Carrying the Amide Group on a Propionic Acid Side Chain, **Liebigs Ann. Chem.** 323-326 (1996).

13. Dillon, M.P.; Cai, H., Maag, H. "Application of the "Trimethyl Lock" to Ganciclovir, a Prodrug with Increased Bioavailability", **Bioorg. Med. Chem. Lett**. **6**, 1653-1656 (1996).

14. Salaski, E.J.; Maag, H. "GMP Synthase: Synthesis of stable Analog of the putative AMP-XMP Intermediate", **SynLett, Special Issue,** 897-900, (1999).

15. Maag, H. "Prodrugs of Carboxylic Acids." In *Prodrugs: Challenges and Rewards*; Stella, V.J; Borchardt, R.T.; Hageman, M.J.; Oliyai, R.; Maag, H.; Tilley, J.W. Eds.; AAPS Press and Springer, Publishers; New York, 2007.

16. Maag, H. "Valganciclovir: A Prodrug of Ganciclovir." In *Prodrugs: Challenges and Rewards, Part 2, pp 677- 684;* Stella, V.J; Borchardt, R.T.; Hageman, M.J.; Oliyai, R.; Maag, H.; Tilley, J.W. Eds.; AAPS Press and Springer, Publishers; New York, 2007.

17. Li, F.; Maag, H.; Alfredson, T. "Prodrugs of nucleoside analogues for improved oral absorption and tissue targeting", **J. Pharmaceut. Sciences**, **97**, 1109-1134 (2007) [Volume Date 2008].

18. Smith, D.B.; Kalayanov, G.; Sund, C.; Winqvist, A.; Pinho, P.; Maltseva, T.; Morisson, V.; Leveque, V.; Rajyaguru, S.; Le Pogam, S.; Najera I.; Benkestock, K.; Zhou, X.X.; Maag, H.; Cammack, N.; Martin, J.A.; Swallow, S.; Johansson, N.G.; Klumpp, K.; Smith, M. "The design, synthesis and antiviral activity of 4'-azidocytidine analogues against hepatitis C virus replication: The discovery of 4'-azidoarabinocytidine", **J. Med. Chem. 52**, 219-223 (2009).

19. Smith, D.B.; Kalayanov, G.; Sund, C.; Winqvist, A.; Maltseva, T.; Leveque, V.J.P.; Rajyaguru, S.; Le Pogam, S.; Najera, I.; Benkestock, K.; Zhou, X.X.; Kaiser, A.C.; Maag, H.; Cammack, N.; Martin, J.A.; Swallow, S.; Johansson, N.G.; Klumpp, K.; Smith, M. "The Design, Synthesis, and Antiviral Activity of Monofluoro and Difluoro Analogues of 4'-Azidocytidine against Hepatitis C Virus Replication: The Discovery of 4'-Azido-2'-deoxy-2'-fluorocytidine and 4'-Azido-2'-dideoxy-2',2'-difluorocytidine". **J. Med. Chem. 52**, 2971-2978 (2009).

20. Yang, Q.; Haney, B.P.; Vaux, A.; Riley, D.A.; Heidrich, L.; He, P.; Mason, P.; Tehim, A.; Fisher, L.E.; Maag, H.; Anderson, N.G. "Controlling the Genotoxins Ethyl Chloride and Methyl Chloride Formed During the Preparation of Amine

Hydrochloride Salts from Solutions of Ethanol and Methanol". **Organic Process Research & Development, 13**, 786-791 (2008).

21. Maag, H. "Overcoming poor permeability - the role of prodrugs for oral drug delivery", **Drug Discovery Today: Technologies**, **9**, e121-e130 (2012).

22. Sahdeo, S.; Wallace, T.L.; Hirakawa, R.: Knoflach, F.; Bertrand, D.; Maag, H.; Misner, D.; Tombaugh, G.C.; Santarelli, L.; Brameld, K.; Milla, M.E.; and Button, D.C. "Characterization of RO5126946, a novel α7 nicotinic acetylcholine receptor positive allosteric modulator" **J Pharmacol Exp Ther, 350,** 455-468 (2014).

Presentations/Abstracts

1. Maag, H.; Obata, N.; Holmes, A.; Schneider, P.; Schilling, W.; Schreiber, J.; Eschenmoser, A. "Totalsynthese von Vitamin B_{12}: Endstufen", **Chimia, 26**, 320 (1972). Abstract of a paper given at the Swiss Chemical Society Meeting, Zürich, April 21/22, 1972.

2. Maag, H.; Blount, J.F.; Steppe, T.V. "Bicyclomycin: Approach to the Total Synthesis", 180th National ACS Meeting, Las Vegas, Nevada, August 24-29, 1980; Abstract ORGN 347. An extended version of this lecture was presented as follows:
   - Sandoz Research Institute, Vienna, Austria; November 30, 1981.
   - University of Innsbruck, Innsbruck, Austria; December 1, 1981.
   - Colorado State University, Fort Collins, Colorado, Nov. 10, 1983.

3. Maag, H.; Sluboski, B.; Rosen, P. "7-Fluoro prostacyclin: A Chemically Stable Analog of Prostacyclin", 185th National ACS Meeting, Seattle, Washington, March 20-25, 1983; Abstract ORGN 178. A more complete account of this work was presented in a plenary lecture at the Medicinal Chemistry Gordon Conference, August 1984.

4. Maag, H.; Locher, R.; Kompis, I. "5-(N-Aryl-tropan-3-yl)- and 5-(N-aryl-piperidin-4-yl)-2,4-diaminopyrimidines, Novel Inhibitors of Dihydrofolate Reductase (DHFR)". 188th National ACS Meeting, Philadelphia, Pennsylvania, August 26-31, 1984; Abstract MEDI 28.

5. Maag, H.; Locher, R.; Kompis, I. "5-(N-Aryl-tropan-3-yl)- and 5-(N-aryl-piperidin-4-yl)-2,4-diaminopyrimidines, Novel Inhibitors of Dihydrofolate Reductase (DHFR)". Fall Meeting of the Swiss Chemical Society, October 19, 1984; Berne, Switzerland.

6. Maag, H.; Chu, N.; Crawford-Ruth, D.; Eugui, E.; McRoberts, M.J.; Mirkovich, A.; Pettibone, M.; Prisbe, E.J.; Rydzewski, R.M.; Verheyden, J.P.H. "4'-Azidothymidine: Synthesis and in vitro anti-HIV activity". Fourth International Conference on Antiviral Research, New Orleans, Louisiana, April 21-26, 1991. Abstract published in **Antiviral Research Suppl. 1**, 43, (1991).

7. Maag, H. "4'-Azidothymidine: Ein neues Nukleosid mit anti-retroviraler Wirkung."

Organic Chemistry Seminar, University of Paderborn, Germany, July 4, 1991.

8. Maag, H.; Barker, M.F.; Prisbe, E.J. "Synthesis and *in vitro* anti-HIV activity of 2',3'-dideoxy-2',3'-methanonucleosides and of 3'-deoxy-2',3'-(difluoromethano)thymidine". Fifth International Conference on Antiviral Research, Vancouver, B.C., Canada, March 8-13, 1992. Abstract published in **Antiviral Research Suppl. 1**, 55, (1992).

9. Maag, H. "Synthesis of 4'-Substituted Nucleosides as Antiviral Agents." Invited Lecture presented at the 3rd. International Symposium on the Chemical Synthesis of Antibiotics and Related Microbial Products, Kloster Banz, Germany, September 23, 1992.

10. Maag, H. "Synthesis of 4'-Substituted Nucleosides." Lectures presented at the Pennsylvania State University, October 13, 1993 and at the University of Pittsburgh, October 14, 1993.

10. Lou, L.; Nakamura, J.; Salaski, E.; Maag, H. "An Analog of the Adenyl-XMP Intermediate is a Potent Inhibitor of Human GMP Synthetase". Poster at the ASBMB/DBC-ACS Meeting, San Francisco, CA, May 21-25, 1995. Abstract: **FASEB J**. **9**(6), p. A1486, Abstr. 1330, 1995.

11. Zhao, S.H.; Berger, J.; Miller, A.K.; Flippin, L.; Clark, R.; Maag, H.; Stepane, G.; Watson, N.; Shetty, S.G.; Cefalu, J.S.; Dawson, M.W.; Rocha, C. "Novel 2-benzyl-piperidine derivatives as selective M2 muscarinic receptor antagonists." Abstracts of Papers, 221st ACS National Meeting, San Diego, CA, United States, April 1-5, 2001 (2001), ORGN-597.

12. Maag, H. "Ganciclovir Pro-Drugs: Synthesis and pre-Clinical Development of Valganciclovir (Valcyte™)", Invited lecture presented at the symposium on 'Pro-Drugs: Understanding the Challenges and Reaping the Rewards' at the 2002 AAPS (American Association of Pharmaceutical Scientists) Meeting, Toronto, November 10-14, 2002.

13. Smith, M.; Martin, J.; Smith, D.; Maag, H.; Naiera, I.; Jiang, W.R.; Klumpp, K.; Leveque, V.; Cammack, N.; Johansson, N.G.; Kalayanov, G.; Belfrage, A.K.; Benkestock, K.; Farnell, K.; Hiscock, S.; Lindborg, B.; Maltseva, T.; Morisson, V.; Pinho, P.; Sund, C.; Tozer, M.; Winquist, A.; Zhou, X.X. Abstracts of Papers, 232nd ACS National Meeting, San Francisco, CA, United States, Sept. 10-14, 2006 (2006), MEDI-236.

14. Maag, H. "Prodrugs of Nucleoside Antiviral Agents: From Valcyte™ to R1626." Lecture presented at the 2nd Drug Discovery Symposium, Shanghai, October 21, 2006.

15. Maag, H. "Antiviral Agents: Novel Treatments for Hepatitis C (HCV) Infections." Lecture presented at the 3rd Drug Discovery Symposium, Shanghai, November 9, 2007.

16. Maltseva, T.; Usova, E.; Johansson, NG.; Kalayanov, G.; Eriksson, S.; Sund, C.; Winqvist, A.; Zhou, X-X.; Smith, D.B.; Klumpp, K.; Smith, M.; Maag, H.; Martin, J.A." Structure- Activity studies of the deoxycytidine kinase with novel 4' -azido-2'deoxy-nucleosides using nmr analysis". SMASH 2008 Conference , Sep 7th-10th, 2008, Santa Fe, New Mexico. Poster 11.

17. Maag, H.; Du Bois, D.J.; Loughhead, D.G.; Manka, J.; Misner, D.; Sahdeo, S.; Smith, D.B. "2,2-Dimethylcyclopropyl-benzamides: Novel Positive Allosteric Modulators of nAChR-α7." Nicotinic Acetylcholine Receptors as Therapeutic Targets – 2009, Oct. 14-16, 2009, Chicago, Il. Abstract published in **Biochemical Pharmacology**, **78**, 913, 2009.

Patents (Generally, the U.S. Patent numbers are listed. In most cases, corresponding patents have been issued in additional countries.)

1. Maag, H.; Holland, G.W.; Rosen, P. (Hoffmann-LaRoche Inc.) "7-Fluoro-prostacyclin analogues - useful as thrombocyte aggregation inhibitors, gastric secretion inhibitors and hypotensives".
   U.S. Pat. 4'558'142; issued December 10, 1985.
   U.S. Pat. 4'612'380; issued September 16, 1986.
   U.S. Pat. 4'650'883; issued March 17, 1987.
   U.S. Pat. 4'665'198; issued May 12, 1987.

2. Kompis, I.; Locher, R.; Maag, H. (F. Hoffmann-LaRoche AG) "New 2,4-Diamino-pyrimidine derivatives with antibacterial, antimalarial, coccidiostatic and antitumor activity".
   U.S. Pat. 4'590'270; issued May 20, 1986.
   U.S. Pat. 4'774'249; issued September 27, 1988.

3. Holland, G.W.; Maag, H.; Rosen, P. (Hoffmann-LaRoche Inc.) "New 5-halo-7-fluoro-prostacyclin derivatives - useful intermediates for active fluoro-prostacyclin derivatives".
   Brit. Pat. 2'158'822; issued June 18, 1986.

4. Holland, G.W.; Maag, H.; Rosen, P. (Hoffmann-LaRoche Inc.) "New 6,9-epoxy-7-fluoro-11,15-dihydroxy-prostenoic acid compounds - useful as blood platelet anti-aggregating agents, and new 6-halo-prostanoic acid compound intermediates".
   U.S. Pat. 4'634'782; issued January 6, 1987.
   U.S. Pat. 4'680'415; issued July 14, 1987.

5. Holland, G.W.; Maag, H.; Rosen, P. (Hoffmann-LaRoche Inc.) "New 7-fluoro-11,15-bis-tri:alkyl-silyl:oxy-rosta-5-enoic acid cpds. - useful as intermediates to 7-fluoro-prostacyclin cpds. useful as blood platelet anti-aggregation agents".
   U.S. Pat. 4'681'962; issued July 21, 1987.

6. Holland, G.W.; Maag, H.; Rosen, P. (Hoffmann-LaRoche AG) "New acylated 7-fluoro-prostacyclin derivs. - useful as circulatory and antiulcer medications".
   Brit. Pat. 2'198'130; issued June 8, 1988.

7. Holland, G.W.; Maag, H.; Rosen, P.; Lee, F. (Hoffmann-LaRoche AG) "New 16-cycloalkyl-7-fluoro-prostacyclin derivs. - useful as circulatory, cyto:protective and antiulcer medicaments".
U.S. Pat. 4'808'734; issued February 28, 1989.

8. Maag, H.; Prisbe, E.J.; Verheyden, J.P.H. (Syntex (USA) Inc.) "2'-Deoxy-4'-azido-nucleoside(s) - useful as antibacterial, antifungal and partic. as antiviral agents in the treatment of AIDS".
Europ. Pat. Appl. EP371366, published June 6, 1990.
U.S. Pat. 5,449,664, issued September 12, 1995

9. Maag, H.; Prisbe, E.J.; Verheyden, J.P.H. (Syntex (USA) Inc.) "New 4'-azido- and 4'-methoxy-substd. nucleoside antiviral agents - have potent activity and high therapeutic ratio, and are used for treating HIV, bacterial and fungal infections".
Europ. Pat. Appl. EP457326, published November 11, 1991.
U.S. Pat. 5,449,664, issued September 12, 1995

10. Maag, H.; Schmidt, B.; Rose S. (Syntex (USA) Inc.) "Preparation of oligonucleotides containing 4'-substituted nucleotides".
U.S. Pat. 5,446,137, issued August 29, 1995.
U.S. Pat. 5,750, 343, issued May 12, 1998.

11. Nestor, J.J.; Womble, S.W.; Maag, H. (Hoffmann-LaRoche AG) "2-(2-Amino-1,6-dihydro-6-oxo-purin-9-yl)methoxy-1,3-propanediol derivative."
Eur. Pat. Appl. EP694,547, published January 31, 1996.
U.S. Pat. 6,083,953, issued July 4, 2000.

12. Nestor, J.J.; Womble, S.W.; Maag, H. (Hoffmann-LaRoche AG) "Preparation of Ganciclovir derivatives as virucides".
U.S. Pat. 5,543,414, issued August 6, 1996.

13. Caroon, J.M., Clark, R.D., Dillon, M.P., Harris, R.H. III, Hegde, S.S., Lin, C.J.J., Maag, H., Repke, D.B. (F. Hoffman-La Roche AG, Switz.). "Preparation of piperidinylmethylamino-ethylarenes as muscarinic receptor antagonists."
PCT Int. Appl. (1999), WO 9943657 A1.

14. Caroon, J.M., Clark, R.D., Dillon, M.P., Harris, R.H. III, Hegde, S.S., Lin, C.J.J., Maag, H., Repke, D.B. (Syntex (USA) Inc.) "2-Arylethyl-(piperidine-4-ylmethyl)amine derivatives."
U.S. Pat. 6,319,920, issued November 20, 2001.

15. Dvorak, C.A.; Fisher, L.E.; Green, K.L.; Harris, R.N., III; Maag, H.; Prince, A.; Repke, D.B.; Stabler, R.S. (F. Hoffmann-La Roche A.-G., Switz.). "Preparation of aminoalkyllactams as muscarinic receptor antagonists."
U.S. Pat. 6,667,301, issued December 23, 2003
U.S. Pat. 7,094,778, issued August 22, 2006.

18. Maag, Hans; Sui, Meng; Zhao, Shu-hai. (Roche Palo Alto LLC, USA). "Preparation of substituted benzoxazinones as selective 5-HT6 antagonists for treating central nervous system diseases and gastrointestinal tract disorders."
US7141562 B2, issued November 28, 2006.

19. Dvorak, C.A.; Fisher, L.E.; Green, K.L.; Harris, R.N., III; Maag, H.; Prince, A.; Repke, D.B.; Stabler, R.S. (Roche Palo Alto, LLC, USA.). "Preparation of heterocyclylalkylamines as muscarinic receptor antagonists."
US7361648 B2, issued April 22, 2008.

20. Du Bois, D.J.; Elworthy, T.R.; Maag, H.; Sahdeo, S. "Preparation of tetrazole-substituted aryl amide derivatives as modulators of nicotinic receptors". (F. Hoffmann-La Roche AG, Switz.).
US7981914 B2, issued July 19, 2011.

21. Du Bois, D.J.; Hurst, D.N.; Loughhead, D.G.; Maag, H.; Manka, J.; Smith, D.B. „Preparation of arenecarboxylic acid cyclopropylamides as positive .alpha.7 nAChR nicotinic acetylcholine receptor allosteric modulators". (F. Hoffmann-La Roche AG, Switz.).
US7723391 B2, issued May 25, 2010.

22. Broka, C.A.; Hendricks, R.T.; Maag, H.; Smith, D.B.; Wanner, J. "Preparation of thieno[3,2-d]pyrimidines for treating hepatitis C virus infection". (Roche Palo Alto LLC, USA).
U.S. Pat. Appl. Publ. (2011), US 20110070190 A.

23. Turner, W.W.; Arnold, L.D.; Maag, H.; Zlotnick, A. "Hepatitis b core protein allosteric modulators". (Indiana University Research and Technology Corporation and Assembly Biosciences, Inc.)
PCT Int. Appl. Publ. (2015) WO2015138895 A1