

## Curriculum vitae - Amos Bairoch

### **1. Personal Data**

Surname: BAIROCH

Christian name: Amos

Sex: male

Date and place of birth: 22 November 1957, Clamart, France

Nationality: Swiss, Geneva

Civil status: married, 3 children

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### **2. Present positions**

'Professeur adjoint en Bioinformatique' at the Medical Biochemistry department of the University of Geneva, Switzerland

Group Leader, Swiss Institute of Bioinformatics (SIB), Geneva, Switzerland

About 20% of my time is spent on teaching activities.

### **3. Education**

1977: Maturité scientifique

1981: Licence (B. Sc.) in Biochemistry, University of Geneva, Switzerland

1981: Licence (B. Sc.) in Chemistry, University of Geneva, Switzerland

1983: Diploma (M. Sc.) in Biochemistry, University of Geneva, Switzerland

1990: Ph.D. thesis, University of Geneva, Switzerland

### **4. Professional activities**

Since February 2001: 'Professeur adjoint en Bioinformatique' at the Medical Biochemistry department of the University of Geneva, Switzerland

Since April 1998: Group Leader at the Swiss Institute of Bioinformatics (SIB), Geneva.

Since January 1995: 'Maitre d'Enseignement et de Recherche' (MER) at the Medical Biochemistry department of the University of Geneva.

October 1989 to December 1994: 'Collaborateur scientifique' in charge of Biocomputing for the 'Unité d'analyse moléculaire' of the Faculty of Medicine at the University of Geneva.

October 1987 to October 1989: 'Maitre-assistant' at the Medical Biochemistry department of the University of Geneva.

October 1982 to October 1987: 'Assistant' at the Medical Biochemistry department of the University of Geneva.

## **5. Teaching activities**

Since 1999: co-organizer of the Diplôme d'études approfondies (DEA) plurifacultaire en bioinformatique. This is a one-year curriculum leading to a Master's degree in bioinformatics. It is organized by the SIB and the universities of Geneva and Lausanne. I am in charge of 2 of the 8 modules: Introduction to bioinformatic and Databases for the life sciences.

Since 1997: participation (1 to 2 times per year) in the joint course of the Swiss node of EMBnet and the Swiss biological science 3rd cycle course on Sequence analysis

Since 1994: participation in the training courses (3 to 4 times per year) on two-dimensional polyacrylamide gel electrophoresis organized by Prof. Denis F. Hochstrasser of the Clinical Chemistry Department of the Geneva University Hospital.

Since 1992: participation (once per year) in form of a seminar to the Swiss biological science 3rd cycle course on Micro-techniques in protein and peptide chemistry organized by Prof. J.-C. Jaton at the University of Geneva.

Since 1992: in charge of giving an annual one-semester course (two hours per week) Computer analysis of protein sequences to post-graduate students in biochemistry and biology at the University of Geneva .

From 1996 to 1998: co-organizer of a one year Bioinformatics course (3 hours per week) at the Computer Sciences department of the University of Geneva.

In 1996: participation to a post-graduate course on Bioinformatics (Informatique et biologie: du modèle à l'outil) at the Swiss Federal Polytechnic of Lausanne.

In June 1995: instructor for an EMBO molecular phylogeny course organized by the Laboratoire de Biométrie, Génétique et Biologie des Populations in Lyon.

In October 1992: instructor for the Biocomputing course 1992; organized by the Norwegian node of EMBnet in Oslo.

From 1990 to 1995: in charge of giving a two-hour lecture on sequence analysis in the framework of the Biochemistry course for undergraduate students at the University of Geneva.

From 1989 to 1997: instructor for the yearly ICGEB/UNIDO workshop on Computer Applications in Molecular Biology, in Trieste (Italy).

From 1982 to 1984: numerous courses on various aspects of microcomputing.

## **6. Awards**

Recipient of the 1995 Helmut Horten Foundation Incentive Award.

Recipient of the 1993 Friedrich Miescher award from the Swiss Society of Biochemistry.

## **7. Other official positions**

Since 1993; work in collaboration with the group of Ron Appel on a World Wide Web server for molecular biologists (ExPASy). In October 2002 this server was queried at the rate of about 7 million documents per month and it had reached a cumulative total of 220 million connections. Mirror sites of ExPASy have been established in Australia, Canada, China, Korea and Taiwan, with more sites being planned worldwide.

Since 1990: work on ENZYME, a database of information on the nomenclature of enzymes.

Since 1988: work on PROSITE, a database of protein families and domains. At least 10'000 copies of PROSITE are distributed at each release. Some 30 different academic and commercial programs have been written by other scientists that make use of the database.

From 1986 to 1989: moderator of two bulletin boards on the BIOSCI computer resource network.

Since 1986: development and maintenance of the SWISS-PROT protein sequence database. SWISS-PROT is the best known and most widely used protein database. From 1987 to 1994 it has been a collaborative project with the European Molecular Biology Laboratory Data Library group (Heidelberg / Germany) and since 1994 with the European Bioinformatics Institute (EBI) (Hinxton / U.K.).

Principally from 1984 to 1987: development of PC/Gene, a microcomputer software package for the analysis of protein and nucleotide sequences. PC/Gene was distributed worldwide by IntelliGenetics which is now owned by Oxford Molecular. More than 2500 laboratories in 45 different countries have used PC/Gene. In parallel: development of new methods and algorithms for the analysis of protein sequences.

In 1982-1984: in charge of the support of microcomputer systems in several departments of the universities of Geneva, Lausanne, and Fribourg. Installation of commercial software packages, organization of seminars, hardware and software evaluation.

In 1982-1983: development of mini-computer programs for the analysis of mass spectra of peptides for the Medical Biochemistry Department of the University of Geneva.

In 1979-1980: development of a radio-immunoassay analysis package on a microcomputer for the Clinical Biochemistry Institute of the University of Geneva.

## **8. Committees memberships, honorific positions and editorial or advisory boards of journals**

Since 1987: 'honorary consultant' of the Data Library group of the European Molecular Biology Laboratory (EMBL) in Heidelberg, now the European Bioinformatics Institute (EBI) in Hinxton near Cambridge (UK).

From 1992 to 1997: member of the editorial board of Nucleic Acids Research

In 1993, member of the Advisory Committee for the European Bioinformatics Institute (ACEBI).

1993 to 1997: member of the editorial board of Enzyme and Protein

From 1995 to 1998, member of the scientific council of GIS INFOBIOGEN, the French national infrastructure for bioinformatics.

1995 to 1998: member of the editorial board of Gene-Combis

Since 1995: member of the International Union of Biochemistry and Molecular Biology Nomenclature Committee (IUBMB-NC) also known as JCBN.

Since 1998, president of the Board of Directors of Geneva Bioinformatics (GeneBio) SA.

In 1999, member of the "Bioinformatics search committee" of the University of Basel, Switzerland (selection of two professors of bioinformatics).

Since 1999, member of the Scientific Advisory Board of the Presage database for Structural Genomics (Stanford, USA).

Since 1999, member of the Data Center Committee of the Protein Data Bank (PDB), USA.

Since 1999, member of the Panel of experts of Action plan "Genomics" of the French Ministry of National Education, Research and Technology.

Since 1999, member of the Scientific Advisory Committee of GenoPlante (INRA; Evry / France).

Since 1999, member of the International Advisory Committee for the Human Gene Nomenclature Committee.

Since 1999, member of the Editorial Board of Functional and Integrative Genomics, Springer-Verlag, Heidelberg.

Since 1999, member of the Advisory Board of Genome Biology, New Science Press Ltd., London, UK.

Since 2000, member of the Editorial Board of Proteomics, Wiley-VCH, UK.

Since 2000, member of the "Comité de pilotage", Génomole Rhône Alpes (Lyon, France).

Since 2001, member of the Scientific Advisory Board of GeneProt

Since 2001, member of the Inaugural Council of the Human Proteome Organisation (HUPO)

Since 2002, commission temporaire de structure chargée d'étudier le développement et l'avenir de la biochimie à la Faculté de médecine de l'Université de Genève.

## 9. Funding

For every subsidy stated below, I have been the principal requestor or, in the case of European Union grants, a co-requestor.

From 1985 to 1995: the royalties from the sale of PC/Gene have been used to pay for the salaries of 1.5 'assistants' as well as for various computer equipment.

From 1987 to 1993: a part of the budget of the Data Library group at the European Molecular Biology Laboratory was been allocated to the maintenance, development, and distribution of SWISS-PROT.

From 1992 to 1997: the firm IntelliGenetics has provided a bursary for a programmer to work, in Geneva, under my supervision in the development of PC/Gene.

From 1992 to 1994: Dr. Denis Hochstrasser of the Digital Imaging Group at the Medical Informatic Center of the Geneva University Hospital created a position for a Ph.D. student to work, under our joint guidance, in the development of an expert system for protein function analysis. He also provided computer equipment for this project.

In April 1993: a grant of Fr.S. 481,798.- was awarded by the Swiss National Science Foundation [FNRS/SNSF] (31-36393.92) over a two year period for the development of SWISS-PROT and PROSITE. This grant was extended for a third year (Fr.S. 235.887.-).

In July 1993: a grant of Fr.S. 224,000.- was awarded by Glaxo Group Research Ltd over a three year period for the development of SWISS-PROT.

From February 1995 to December 1996: the EMBL - EBI has awarded a full position for a student annotator.

Starting in January 1996 and for a five year period, the Helmut Horten Foundation contributes up to Fr.S. 420,000.- per year for salaries and equipment to my research activities (Helmut Horten Incentive Award).

In December 1996: a grant of Fr.S. 600,000.- was awarded by the Swiss National Science Foundation [FNRS/SNSF] (31-49990.96) over a three year period for Core activities of the SWISS-PROT protein sequence database.

In December 1996: a grant of Fr.S. 47,450.- was awarded by the EU Biotechnology research program and the FOES/OFES (BIO4-CT96-0030 / OFES 96.0441-2) over a three year period for EMBnet ca: Europe's bioinformatics infrastructure network.

In February 1998: a grant of Fr.S. 748,800.- was awarded by the EU Biotechnology research program and the FOES/OFES (BIO4-CT97-2099 / OFES 96.0403) over a 31 month period for Enhancement of the SWISS-PROT protein sequence data bank activities.

In August 1998: a grant of Fr.S. 259,200.- was awarded by the EU Biotechnology research program and the FOES/OFES (BIO4-98-0052 / OFES 98.0202-1) over a two year period for INTERPRO: the creation of an integrated resource of protein domains and functional sites and its application to accelerate protein functional analysis.

In April 1999: a grant of Fr.S. 105,393.- was awarded by the Swiss National Science Foundation [FNRS/SNSF] (21-55546.98) over a two year period for The Anataxis projects: reconstructing the Tree of Life with a new computerized parallel approach.

In December 2000: a grant of Fr.S 139'500.- was awarded by the EU Biotechnology research program and the FOES/OFES (QLRI-CT-2000-00517 / OFES 01.0071) over a two year period for *ProFuSe: Automation of large-scale protein functional sequence analysis*.

In July 2001: a grant of Fr.S 425,000.- was awarded by the Swiss National Science Foundation [FNRS/SNSF] (31-63879.00) over a three year period for *Characterization of biomolecular sequence motifs by generalised profiles*.

In November 2001: a grant of Fr.S 627,800.- was awarded by the EU Biotechnology research program and the FOES/OFES (QLRI-CT-2001-00981 / OFES 01.0155) over a three year period for *BioBabel: Enhanced interoperability of biological databases by standardisation of biochemical terminology and introduction of a shared ontology*.

In January 2002: a grant of Fr.S 1,016,680.- was awarded by the EU Biotechnology research program and the FOES/OFES (QLRI-CT-2001-00015 / OFES 01.0101) over a three year period for *Temblor: The European molecular biology linked original resources*.

Starting in September 1998: the licensing of SWISS-PROT and PROSITE to commercial users by GeneBio is generating yearly revenues of about Fr.S. 3,200,000.- Slightly less than half of this sum goes to the SWISS-PROT group at EBI and the rest to the SWISS-PROT group at the SIB.

For the period 2000-2003, the Swiss Federal Government has allocated about Fr.S. 1,520,000.- per year for the maintenance of SWISS-PROT and PROSITE.

#### **10. Ph.D and other thesis jury participation**

February 1995: Laurent Duret; Université Claude Bernard - Lyon I / France

December 1996: Ivan Moszer; Université Paris VI / France

February 1997: Florence Horn; Université de la Méditerranée - Marseille II / France

July 1998: Frédéric Achard; Université Paris VII / France

October 1998: Nicolas Moeri; Ecole Polytechnique Fédérale de Lausanne / Switzerland

June 1999: Catherine Cooper; Macquarie University; Sidney / Australia

July 2000: Guy Perrière; HDR thesis; Université Claude Bernard - Lyon I / France

September 2000: Claudine Médigue-Rousseau; HDR thesis; Université de Versailles-Saint Quentin / France

June 2001: Christophe Combet; Université de Paris VII / France

#### **11. Conferences and workshops: invited speaker/participant**

February 1987 / EMBL-NIH workshop; Future Databases for Molecular Biology / EMBL; Heidelberg; Germany.

January 1988 / Annual meeting of the CODATA task group on biological macromolecules / Paris; France.

October 1989 / EMBO Conference; Patterns in Protein Sequence and Structure / EMBL; Heidelberg; Germany.

July 1990 / NCBI software and database developers conference / NIH; Bethesda; USA.

December 1990 / HUGO meeting; Genome analysis: from sequence to function / Frankfurt am Main; Germany.

March 1991 / British Crystallographic Association (BCA) spring meeting / Sheffield; UK.

October 1991 / The role of Biocomputing in the characterization of human genome sequences / Bari; Italy.

November 1991 / Workshop for creating an infrastructure for intelligent systems in molecular biology / NLM/NSF; Bethesda; USA.

December 1992 / BioInformatics and molecular evolution: prediction of gene function / National Institute of Genetics; Mishima; Japan.

December 1992 / Teijin second seminar in BioInformatics / Osaka; Japan.

March 1993 / Annual meeting of the CODATA task group on biological macromolecules / Ringberg; Germany.

May 1993 / First international conference of the Commission on Plant Gene Nomenclature / Bellagio; Italy.

August 1993 / Macromolecules, Genes, and Computers: chapter three (MGC-III) / Waterville Valley; USA.

May 1994 / IUBMB-IUPAC Nomenclature Committee Meeting / Kiliney; Ireland.

June 1994 / Forum Interdisciplinaire "Génome et Informatique" (FIDGI) / Aussois; France.

July 1994 / HUGO Bioinformatics Forum / Hinxton; UK.

September 1994 / 2D Electrophoresis: from protein maps to genomes / Siena; Italy.

September 1994 / International workshop on extracellular protein modules: sequence, structure, function and evolution / Margretetorp; Sweden.

November 1994 / Third international E.coli genome meeting / Marine Biological laboratory; Woods Hole; USA.

November 1994 / Septième entretiens du Centre Jacques Cartier: Computer Science and Molecular Biology / Lyon; France.

December 1994 / 17th annual meeting of the Molecular Biology Society of Japan / Kobe; Japan.

December 1994 / 5th Genome Informatic Workshop / Yokohama; Japan.

February 1995 / 7th European Congress of Biotechnology (ECB7) / Nice; France.

May 1995 / IUBMB-IUPAC Nomenclature Committee Meeting / Hinxton; UK.

May 1995 / First European Symposium of the Protein Society / Davos; Switzerland.

June 1995 / International working conference on the use of Internet and World-Wide Web for telematics in healthcare / Geneva; Switzerland.

March 1996 / Getting the most from your protein sequence / British Biophysical Society meeting / London; UK.

May 1996 / IUBMB-IUPAC Nomenclature Committee Meeting / Geneva; Switzerland (Meeting organizer).

May 1996 / DOE Macromolecular database workshop / Argonne National Laboratory / USA.

September 1996 / XIth International Conference on Methods in Protein Structure analysis / Annecy; France.

September 1996 / From Genome to Proteome; 2nd Siena 2D Electrophoresis Meeting / Siena; Italy.

November 1996 / 24th Aharon Katzir-Katchalsky Conference; BioInformatics - Structure / Jerusalem; Israel (Member of Organizing Committee).

February 1997 / Genes and Computer IV (GPC-4) / Daresbury; UK.

March 1997 / 11th International Conference on Mathematical and Computer Modelling and Scientific Computing / Washington DC; USA.

April 1997 / Journée thématique: Développements récents en Microanalyse des Protéines / Grenoble; France.

May 1997 / IUBMB-IUPAC Nomenclature Committee Meeting / Washington DC; USA.

July 1997 / Perspectives on Protein Engineering 1997 (POPE 1997) / John Innes Institute / Norwich; UK.

October 1997 / Workshop on interconnection of organism specific databases / La Treille; France.

November 1997 / 1st annual Computational Genomic Conference / Washington DC; USA.

December 1997 / Symposium in Computational Sciences; Bioinformatics from Experiment to Biological Knowledge / Basel; Switzerland.

February 1998 / Miami 30th Winter Symposia: Molecular Biology in the Conquest of Disease / Miami; USA.

February 1998 / Zoologia et Botanica 98 / Geneva; Switzerland.

April 1998 / Harnessing Innovation to Develop Effective Bioinformatics Programmes / London; UK.

August 1998 / From Genome to Proteome; 3rd Siena 2D Electrophoresis Meeting / Siena; Italy.

September 1998 / EU/US Workshop on Database Interoperability / Hinxton; UK.

October 1998 / Integrative Bioinformatics: High throughput Interpretation of Genes and Proteins / Zurich; Switzerland (Keynote speaker).

February 1999 / European Science Foundation Strategic Workshop on Beyond the Human Genome Sequence: Proteome Analysis in Medical Research / Chamonix; France.

March 1999 / Colloque de l'Institut Jacques-Monod: Evolution moléculaire / Paris; France.

April 1999 / European Science Foundation Exploratory Workshop on Functional Genomics / Paris; France.

May 1999 / IUBMB-IUPAC Nomenclature Committee Meeting / Cambridge; UK.

June 1999 / 26th meeting of the Federation of European Biochemical Societies (FEBS) / Nice; France.

June 1999 / Genomics, functional genomics, proteomics and beyond; Institut Pasteur Euroconferences / Paris; France.

August 1999 / 7th International Conference on Intelligent Systems for Molecular Biology / Heidelberg; Germany (Keynote speaker).

October 1999 / Sino-Swiss Workshop on Bioinformatics / Peking; China.

January 2000 / VIIth DBMS/IBS Workshop: From the Structure and Function to the Design of Modular Proteins / Autrans; France.

February 2000 / The Genome Conference 2000 / 21st Annual Conference on the Organisation and Expression of the Genome / Lorne; Australia.

April 2000 / Genomes 2000: International Conference on Microbial and Model Genomes / Paris; France.

May 2000 / Proteomics: new experimental approaches to unravel biological processes / Inserm Atelier 115 / Jouy-en-Josas; France.

August 2000 / Arolla workshop 2000; Genes and development: signalling in health and disease / Arolla; Switzerland.

September 2000 / From Genome to Proteome; 4rd Siena 2D Electrophoresis Meeting / Siena; Italy.

October 2000 / Journée Thématique de l'Institut Albert Bonniot: les banques de données en Biologie: pourquoi, comment? / Grenoble; France.

November 2000 / Transcriptome 2000; From Functional Genomics to Systems Biology / Institut Pasteur; Paris; France.

December 2000 / Analyse de l'expression des gènes et bioinformatique: Nouveaux développements, applications industrielles et biomédicales / Lyon; France.

March 2001 / XIV Course in Medical Genetics / Sestri Levante; Italy.

April 2001 / BBC 2001; 2nd Belgian Bioinformatics Conference / Ghent; Belgium.

June 2001 / Global Health Equity: Medical progress and Quality of Life in the XXIst century / UNESCO Paris; France.

June 2001 / 2nd PROSITE Workshop / Marseille; France.

July 2001 / 27th meeting of the Federation of European Biochemical Societies (FEBS) / Lisbon; Portugal.

September 2001 / Proteomic Forum 2001 - International meeting on Proteome Analysis / Munich; Germany.

October 2001 / European Science Foundation Workshop: Data Integration in Functional Genomics and Proteomics / Geneva; Switzerland.

November 2001 / Swiss Proteomics Society 2001 Congress: Functional Proteomics / Geneva; Switzerland.

March 2002 / Ecole de Printemps du 3<sup>ème</sup> cycle Romand d'informatique 2002 / Les Diablerets; Switzerland.

June 2002 / JOBIM 2002; Journées ouvertes Biologie Informatique Mathématiques / St-Malo; France.

June 2002 / GPBM 2002; Genomics, Proteomics and Bioinformatics for Medicine / St. Petersburg; Russia.

September 2002 / From Genome to Proteome; 5<sup>th</sup> Siena 2D Electrophoresis Meeting / Siena, Italy.

## Publications list - Amos Bairoch

### 1. Articles published in journals with an editorial policy

1. Bairoch A.; Evidence for the existence of mutated enkephalin sequence in preproenkephalin; FEBS Letters 145:121-122(1982). [83027821]. Impact Factor 2000: 3.440
2. Rose K., Bairoch A., Offord R.E.; Amino acid sequence determination by gas chromatography-mass spectrometry of permethylated peptides. The application of capillary columns; J. Chromatography 268:197-206(1983). Impact Factor 2000: 2.551
3. Mermod N., Ramos J.L., Bairoch A., Timmis K.N.; The xylS gene positive regulator of TOL plasmid pWWO: identification, sequence analysis and overproduction leading to constitutive expression of meta cleavage operon; Mol. Gen. Genet. 207:349-354(1987). [87286379] Impact Factor 2000: 2.462
4. Harayama S., Rekik M., Wasserfallen A., Bairoch A.; Evolutionary relationships between catabolic pathways for aromatics: conservation of gene order and nucleotide sequences of catechol oxidation genes of pWWO and NAH7 plasmids; Mol. Gen. Genet. 210:241-247(1987). [88142541] Impact Factor 2000: 2.462
5. Moore J., Engleberg A., Bairoch A.; Using PC/Gene for protein and nucleic acid analysis; Biotechniques 6:566-572(1988). [90198187] Impact Factor 2000: 1.756
6. Jongeneel C.V., Bouvier J., Bairoch A.; A unique signature identifies a family of zinc-dependent metallopeptidases; FEBS Letters 242:211-214(1989). [89121072] Impact Factor 2000: 3.440
7. Lesk A.M., Boswell D.R., Lesk V.I., Lesk V.E., Bairoch A.; A cross-reference table between the protein data bank of macro-molecular structures and the National Biomedical Research Foundation Protein Identification Resource amino acid sequence data bank; Protein Seq. Data Anal. 2:295-308(1989). [89367260] No Impact Factor in 2000 as the journal ceased to exist in 1993
8. Chauvaux S., Béguin P., Aubert J.-P., Bhat K.M., Gow L.A., Wood T.M., Bairoch A.; Calcium-binding affinity and calcium-enhancee activity of Clostridium thermocellum endoglucanase D; Biochem. J. 265:261-265(1990). [90147577] Impact Factor 2000: 4.280
9. Bairoch A., Cox J.A.; EF-hand motifs in inositol phospholipid-specific phospholipase C; FEBS Letters 269:454-456(1990). [90382598] Impact Factor 2000: 3.440
10. Bairoch A.; SEQANALREF: a bibliographic sequence data bank; Comp. Appl. Biosci. 7:268-268(1991). [91283906] No Impact Factor in 2000 as the journal ceased to exist in 1997
11. Bairoch A.; PROSITE: a dictionary of sites and patterns in proteins; Nucleic Acids Res. 19:2241-2245(1991). [91252344] Impact Factor 2000: 5.396
12. Bairoch A., Boeckmann B.; The SWISS-PROT protein sequence data bank; Nucleic Acids Res. 19:2247-2249(1991). [91252345] Impact Factor 2000: 5.396
13. Neidle E.L., Hartnett C., Ornston L.N., Bairoch A., Rekik M., Harayama S.; Nucleotide sequences of the Acinetobacter calcoaceticus benABC genes for benzoate 1,2-dioxygenase reveal evolutionary relationships among multicomponent oxygenases; J. Bacteriol. 173:5385-5395(1991). [91358314] Impact Factor 2000: 3.506
14. Harayama S., Rekik M., Bairoch A., Neidle E.L., Ornston L.N.; Potential DNA slippage structures acquired during evolutionary divergence of Acinetobacter calcoaceticus chromosomal benABC and Pseudomonas putida TOL pWWO plasmid xylXYZ, genes encoding benzoate dioxygenase; J. Bacteriol. 173:7540-7548(1991). [92041666] Impact Factor 2000: 3.506

15. Neidle E.L., Hartnett C., Ornston L.N., Bairoch A., Rekik M., Harayama S.; Cis-diol dehydrogenases encoded by the TOL pWW0 plasmid xylL gene and the Acinetobacter calcoaceticus chromosomal benD gene are members of the short-chain alcohol dehydrogenase family; *Eur. J. Biochem.* 204:113-120(1992). [92155191] Impact Factor 2000: 2.852
16. Bairoch A.; PROSITE: a dictionary of sites and patterns in proteins; *Nucleic Acids Res.* 20:2013-2018(1992). [92285161] Impact Factor 2000: 5.396
17. Bairoch A., Boeckmann B.; The SWISS-PROT protein sequence data bank; *Nucleic Acids Res.* 20:2019-2022(1992). [92285162] Impact Factor 2000: 5.396
18. Hochstrasser D.F., Frutiger S., Paquet N., Bairoch A., Ravier F., Pasquali C., Sanchez J.-C., Tissot J.-D., Bjellqvist B., Vargas R., Appel R.D., Hughes G.J.; Human liver protein map: a reference database established by microsequencing and gel comparison; *Electrophoresis* 13:992-1001(1992). [93162045] Impact Factor 2000: 3.385
19. Brevario F., d'Aniello E.M., Golay J., Peri G., Bottazi B., Bairoch A., Saccone S., Marzella R., Predazzi V., Rocchi M., Della Valle G., Dejana E., Mantovani A., Introna M.; Interleukin-1-inducible genes in endothelial cells. Cloning of a new gene related to C-reactive protein and serum amyloid P component; *J. Biol. Chem.* 267:22190-22197(1992). [93054498] Impact Factor 2000: 7.368
20. Henrissat B., Bairoch A.; New families in the classification of glycosyl hydrolases based on amino acid sequence similarities; *Biochem. J.* 293:781-788(1993). [93356744] Impact Factor 2000: 4.280
21. Scherly D., Nospikel T., Corlet J., Ucla C., Bairoch A., Clarkson S.G.; Complementation of xeroderma pigmentosum group G cells by a human cDNA related to the yeast DNA repair gene RAD2; *Nature* 363:182-185(1993). [93247645] Impact Factor 2000: 25.814
22. Reizer J., Reizer A., Bairoch A., Saier M.H. Jr.; A diverse transketolase family that includes the recP protein of *Streptococcus pneumoniae*, a protein implicated in genetic recombination; *Res. Microbiol.* 144:341-347(1993). [94069049] Impact Factor 2000: 1.631
23. Bairoch A.; A possible mechanism for metal-ion induced DNA-protein dissociation in a family of prokaryotic transcriptional regulators; *Nucleic Acids Res.* 21:2515-2515(1993). [93281406] Impact Factor 2000: 5.396
24. Bairoch A., Boeckmann B.; The SWISS-PROT protein sequence data bank, recent developments; *Nucleic Acids Res.* 21:3093-3096(1993). [93324414] Impact Factor 2000: 5.396
25. Bairoch A.; The PROSITE dictionary of sites and patterns in proteins, its current status; *Nucleic Acids Res.* 21:3097-3103(1993). [93324415] Impact Factor 2000: 5.396
26. Bairoch A.; The ENZYME data bank; *Nucleic Acids Res.* 21:3155-3156(1993). [93324422] Impact Factor 2000: 5.396
27. Golaz O., Hughes G.J., Frutiger S., Paquet N., Bairoch A., Pasquali C., Sanchez J.-C., Tissot J.-D., Appel R.D., Walzer C., Balant L., Hochstrasser D.F.; Plasma and red blood cell protein maps: the 1993 update; *Electrophoresis* 14:1223-1231(1993). [94147970] Impact Factor 2000: 3.385
28. Hughes G.J., Frutiger S., Paquet N., Pasquali C., Sanchez J.-C., Tissot J.-D., Bairoch A., Appel R.D., Hochstrasser D.F.; Human liver protein map: the 1993 update; *Electrophoresis* 14:1216-1222(1993). [94147969] Impact Factor 2000: 3.385
29. Appel R.D., Sanchez J.-C., Bairoch A., Golaz O., Miu M., Pasquali C., Reynaldo Vargas J., Hughes G.J., Hochstrasser D.F.; SWISS-2DPAGE: a database of two-dimensional gel electrophoresis images; *Electrophoresis* 14:1232-1238(1993). [94147971] Impact Factor 2000: 3.385

30. Reizer J., Buskirk S., Bairoch A., Reizer A., Saier M.H. Jr.; A novel zinc-binding motif found in two ubiquitous deaminase families; *Protein Sci.* 3:853-856(1994). [94339846] *Impact Factor* 2000: 3.869
31. Appel R.D., Bairoch A., Hochstrasser D.F.; A new generation of information retrieval tools for biologists: the example of the ExPASy WWW server; *Trends Biochem. Sci.* 19:258-260(1994). [94353486] *Impact Factor* 2000: 13.246
32. Bairoch A., Boeckmann B.; The SWISS-PROT protein sequence data bank, current status; *Nucleic Acids Res.* 22:3578-3580(1994). [95023094] *Impact Factor* 2000: 5.396
33. Appel R.D., Sanchez J.-C., Bairoch A., Golaz O., Ravier O., Pasquali C., Hughes G.J., Hochstrasser D.F.; The SWISS-2DPAGE database of two-dimensional polyacrylamide gel electrophoresis; *Nucleic Acids Res.* 22:3581-3582(1994). [95023095] *Impact Factor* 2000: 5.396
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## **8. Thesis**

"PC/Gene: a protein and nucleic acid sequence analysis microcomputer package, PROSITE: a dictionary of sites and patterns in proteins, and SWISS-PROT: a protein sequence data bank".  
(University of Geneva)

## **9. Abstracts**

For space reasons abstracts presented at international and Swiss congresses have not been included.