

# PIUG Boston Biotechnology Meeting

Hosted by Amgen, Inc.

February 12, 2007



# Session 1: Where to Search?

- "A Brief History of Patent Sequences" – Elyse Turner, Merck & Co., Inc.
- "GENESEQ – Guidelines and policies" - Colin Williams, Thomson Scientific
- "CAS' Coverage of Sequences in REGISTRY" – Barbara Vieira, CAS
- "All about WIPO - a comparative review of sources of WIPO sequence data", Robert Austin, FIZ Karlsruhe
- "To PSIPS and beyond - exploring the content and utility of USGENE" , Robert Austin, FIZ Karlsruhe
- "Uses of PatGenDB an automated compilation of patent Genomic data" – Hugo Villar, PatentInformatics

# Session 2: How to, What to, and Why to Search?

- "The Role That Sequence Searches Play in Patent Prosecution and FTO Analysis" - Mario Cloutier, Millennium Pharmaceuticals, Inc.
- "Search Strategies for Oligonucleotides and Proteins" - Gregory E. Roland, Pfizer Inc.
- "Patent analysis of short sequences", Dr. Kamalakar Gulukota, Gene-IT, Inc.
- "Which Date?: Finding the Sequence Publicly Accessible Date in a Prior Art Search", Kenneth L. Hoppe, Pfizer Inc.
- "Understanding and Editing of Genomic Repetitive Sequences within Nucleic Acid Strings" - Steve Mitchell, Technology & Patent Research International, Inc.
- "Freedom-to-operate patent searches for selecting sequences of drug targets" – Heahyun Yoo, Bristol Myers Squibb Company
- "CAS Registry BLAST® Tips and Tricks" – Lora Burgess, CAS
- Questions & Discussion

# A Brief History of Patent Sequences

- Commercial Players
- Sequences from Patent Offices

Disclaimer: All comments are my own and do not represent  
the views of Merck & Co., Inc.

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# Commercial Players

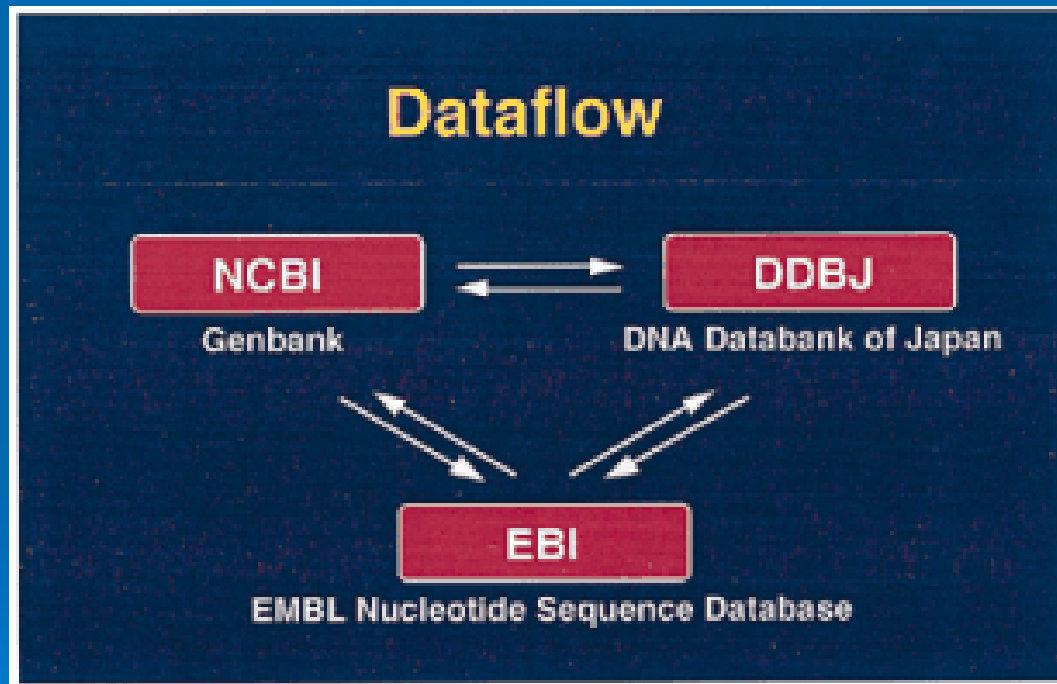
## Late 1980's

- Derwent developing GeneSeq
- CAS promoting sequence searching
- Electronic submission of sequences for patent applications

# Commercial Players Last 5 Years

- GenePast, GenomeQuest (GeneIT)
- PatGenDB (Altoris)
- Blast on STN
- PCTGEN (STN)
- USGENE (SequenceBase Corporation)

# International Nucleotide Sequence Database Collaboration (INSDC)



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# WIPO Standard ST. 25

- Sequence Listing - standard representation of nucleotide and amino acid sequences
- Sequence data in electronic form
- 10+ nucleic acid residues
- 4+ amino acids
- Natural peptides
- Excludes non-natural peptides
- Excludes D amino acids
- Excludes branched chains



# Sequences from EP

European Patent Office  
(From 1 January 1993)



European Bioinformatics Institute (EBI)  
European Molecular Biology Laboratory (EMBL)

Official Journal of the EPO, 18 December 1989, Supplement to Official Journal 12/1989, Notice from the EPO dated 15 November 1989 concerning the representation of nucleotide and amino acid sequences in patent applications

Official Journal of the EPO, Supplement 2, Official Journal November 1998, Decision of the President of the EPO dated 2 October 1998 concerning the presentation of nucleic acid and amino acid sequences in patent applications and the filing of sequence listings

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# Sequences from US

United States Patent & Trademark Office  
(USPTO)

(From 1 October 1990)



National Center for Biotechnology  
Information (NCBI)  
GenBank/GenPept

Federal Register Vol 55 No 84 Tuesday May 1 1990 Rules & Regulations page 18,245

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# Sequences from JP

Japanese Patent Office (JPO)



Center for Information Biology (CIB)  
DNA Database of Japan (DDBJ)

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# Sequences from WO

- Depends upon International Searching Authority (ISA) (AU AT CA CN FI JP KO RU ES SE US EP)
- If EPO is ISA, sequences will be included and sent to EBI/EMBL
- If US is ISA, sequences will be included and sent to NCBI/GenBank/GenPept

# EPO Backfile (pre 1993)

- EPO contracted EBI to manually key the sequences
- EPO selected based upon IPC
- EPO identified sequences to include
- Reviewed all EP applications back to 1978

# USPTO Backfile (pre 1990)

The USPTO hired a private company to look thru patents filed before 1990 to determine which ones had sequence data and key it into the USPTO database.

# Unanswered Questions ???

- How far back in time are there sequences in patents?
- Sequences from applications vs. granted patents?
- Patent sequences collected vs. patent sequences available?
- Patent sequences from other than EP, JP, US?