

Genomics Services @ GENterprise

- ▶ since 1998
- ▶ Mainz University spin-off
- ▶ privately financed
- ▶ 6-10 employees



Gesellschaft für Genanalyse und Biotechnologie mbH
Johann-Joachim-Becher-Weg 30a, 55128 Mainz
Telefon/Fax: 06131-39 23 287/-39 25 397
www.GENterprise.de, info@genterprise.de

Genomics Services @ GENterprise

- ▶ Sequencing Service (Sanger/3730, 454)
- ▶ Genome Projects (Bacteria, BACs, ESTs)
- ▶ cDNA library construction
- ▶ Microsatellite libraries and marker development
- ▶ Custom-microarray service
- ▶ Molecular biology project management



...please check our references by *Google Scholar* and *Highwire* search

Extremely affordable Sanger sequencing!



- ▶ register at www.starseq.com
- ▶ select your preferred sequencing type
- ▶ fill in order form
- ▶ print order form and send together with your sample to:

StarSEQ®

Johann-Joachim-Becher-Weg 30a
55099 Mainz
Germany

Star  **SEQ**

Gesellschaft für Genanalyse und Biotechnologie mbH
Johann-Joachim-Becher-Weg 30a, 55128 Mainz
Telefon/Fax: 06131-39 23 287/-39 25 397
www.GENterprise.de, info@genterprise.de

StarSEQ® Sequencing Service

U-mix:

You mix DNA and primer – we sequence, purify, load and analyse the samples. You receive the complete unedited sequence. Here read lengths of over 1100 bp are possible.

Important information: please click [here](#) and read instructions carefully!

48- or 96-well plate	Price per Sequence Read	3,90 EUR	order online
batch from 20 samples and up	Price per Sequence Read	4,70 EUR	order online
batch of 1-19 samples	Price per Sequence Read	4,90 EUR	order online

Prepaid packages for all sequencing services available!
Please send your request to: info@starseq.com

V-mix:

We mix DNA and primer, sequence, purify, load and analyse the samples. You receive the complete unedited sequence. Here read lengths of over 1100 bp are possible.

Important information: please click [here](#) and read instructions carefully!

48- or 96-well plate	Price per Sequence Read	4,90 EUR	order online
batch from 20 samples and up	Price per Sequence Read	5,70 EUR	order online
batch of 1-19 samples	Price per Sequence Read	5,90 EUR	order online

Next-Gen Sequencing

nature
REVIEWS GENETICS
nature
genetics

Sequencing technologies — the next generation

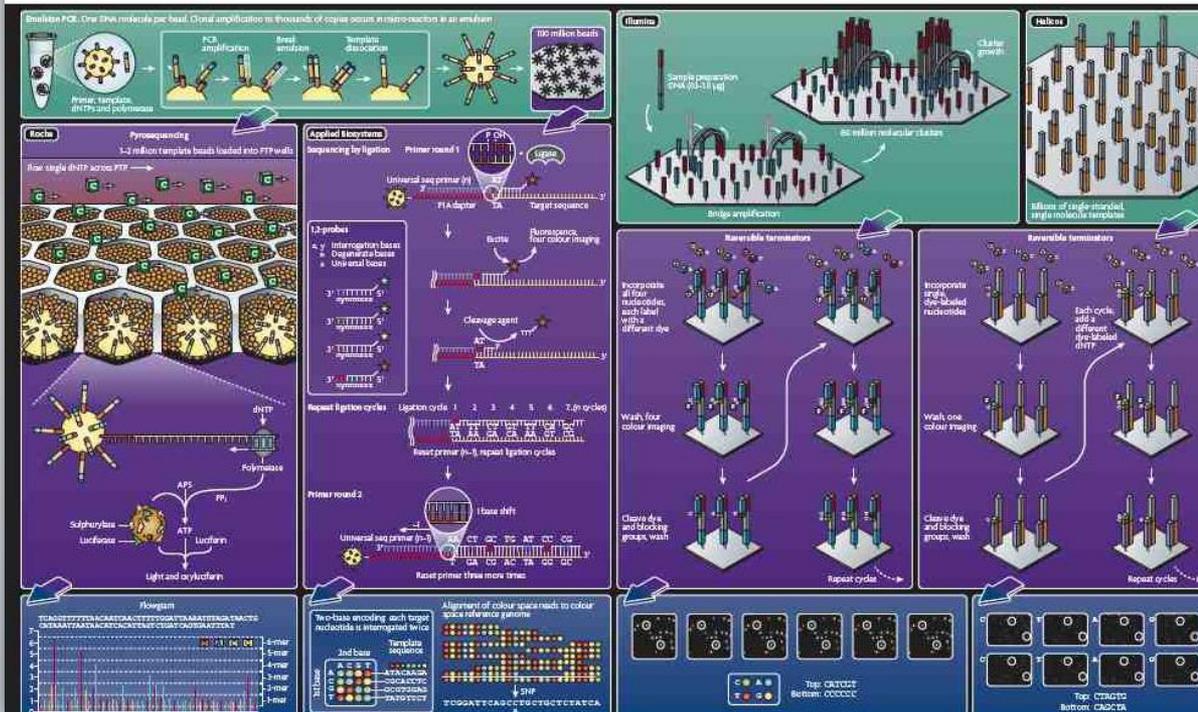
Michael L. Metzker

Never has the state of DNA sequencing technology been in greater flux than today. The steadfast approach of fluorescence-based Sanger sequencing appears to have reached its limit for technological improvements. It is being replaced by emerging technologies that promise faster and cheaper sequence information in far greater volumes than ever before. These next generation methodologies push back the limits of possibility, enabling research that would be impractical and too expensive using the Sanger paradigm. With this

transition come new possibilities in the field of large-scale genomic science, coupled with new challenges in data storage and analysis. Here, the technical details of commercially available, next generation sequencing platforms are highlighted, along with their advantages and disadvantages. Gone are the days of a single platform capable of addressing the needs of most researchers. Investigators must now identify, from several DNA sequencing approaches, the one platform — or combination thereof — that best serves their application.

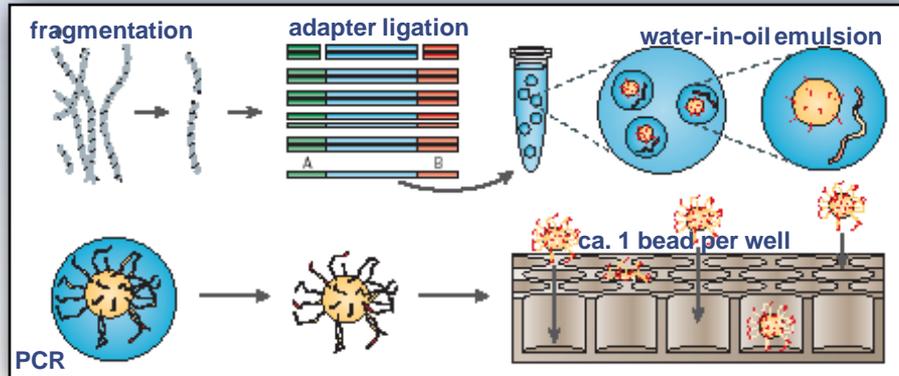


- tedious cloning
- high chemical costs
- slow electrophoresis

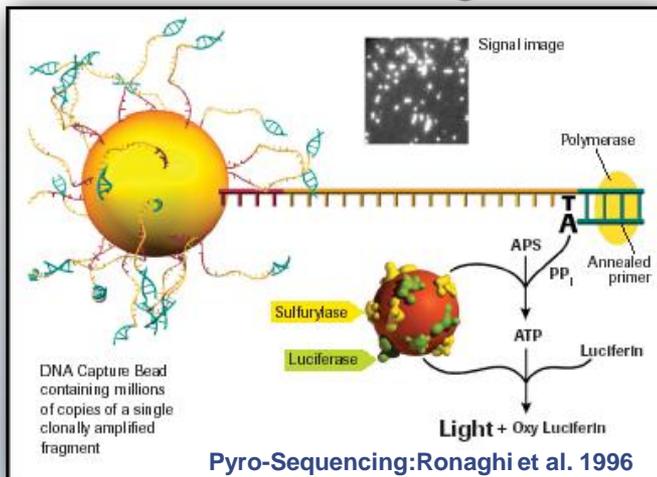


- miniaturized PCR
- low chemical costs
- massively-parallel read-out

Next-Gen Sequencing: 454 FLX



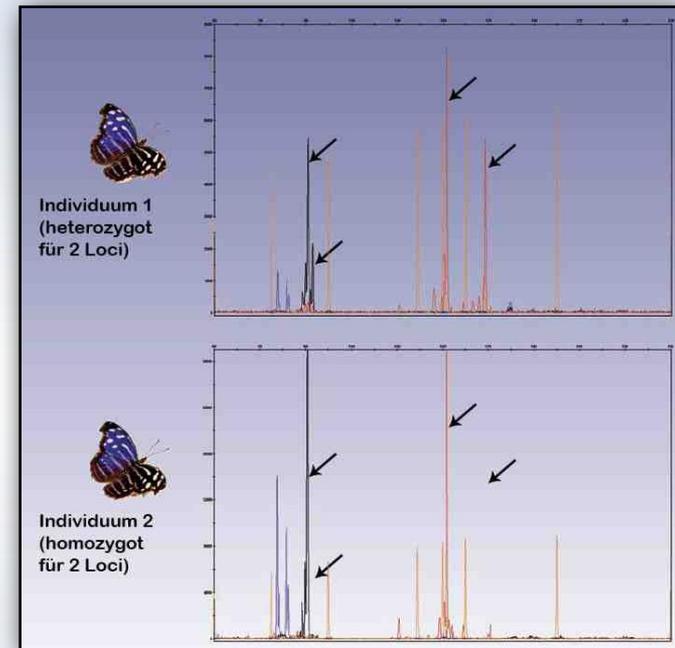
- 400 000 reads à 250 bp
 > 100 Mbp, **16 000 €**
- 12 000 reads/ 2.9 Mbp / **2000 €**
- in progress:
 Titanium long reads 400-500 Bp



```
>000524_0591_1664 length=270 uaccno=FFO2MEW01BP7E
GATCCATGATGGTTTTATTCTCATCTTATCTTTTTTAATTTTTTCTT
GAAATAATGCTCAGCCCTAGGCTTGTGCCATTTCAATAACATCTTTT
TGTGTGCTTTTACCGATCCTGTTATGACAGGATTTTTCTTTCCAT
TTGTTCTTTACCTTTTTGTGTTTGCTATATTGATCATTGCTATCATT
TTCAACGGTTTTCAAATTTCTTTTGTAGG
>000501_0512_2378 length=127 uaccno=FFO2MEW01BJAAK
AAGCAGTGGTATCAACGCAGAGTCAAGTCCGAGATGGAAAACAGCAAAGTAGAAC
AGGATGAAATACTCAAAAANAACCCCAAAACCCCAAAACCTAAGTAACGTAGTTACCG
TTACCCG
>000503_0551_1475 length=196 uaccno=FFO2MEW01BMOUT
AAGCAGTGGTATCAACGCAGAGTTTTGTTGGTCGACCTTTGGTTTTAGTCGGGTAGTCG
ACCTCCAGGCTTGGCCGAAATTTGAGAAAACAGACCAGAGTGGACCGTTAGTCTTAGTTGA
AGCTAAGGAGTTGTCCAAACAAAATCCTACAGTTTTCTACAATACTACTAAGTGATGTC
CGCGTTTTTAAGTCC
```


Microsatellite development & genotyping

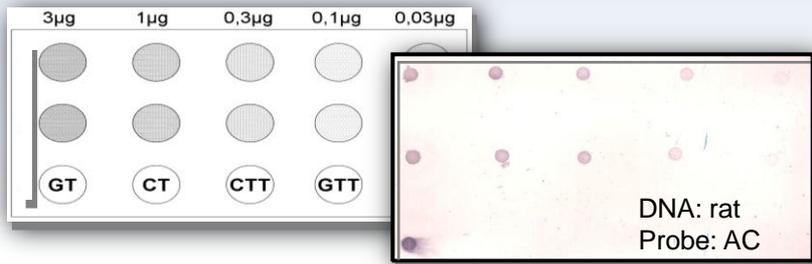
- ▶ ecology & evolution
- ▶ marker-assisted breeding
- ▶ forensics



Microsatellite development & genotyping

NEW!

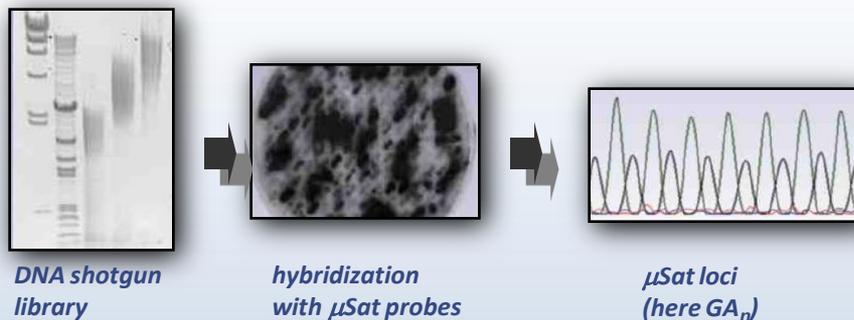
μSat-FINDER



How many MS loci per genome?

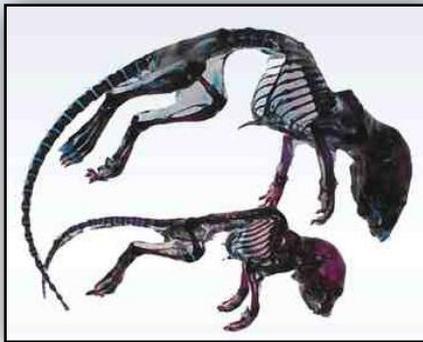
Which types of simple sequences?

μSat library construction

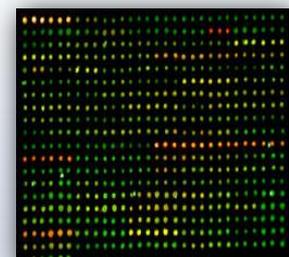


even from limited amounts of tissue or DNA

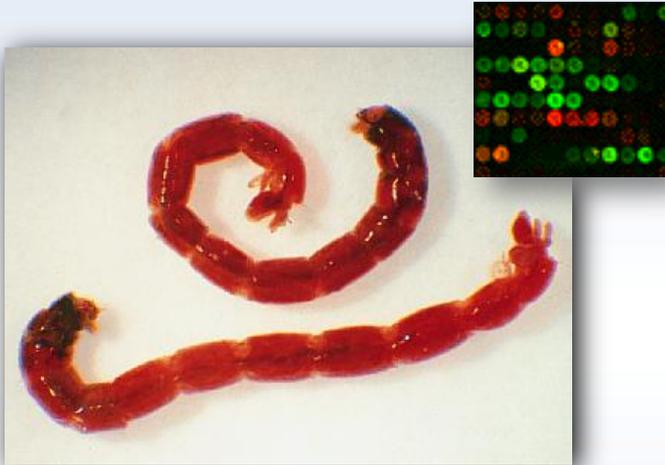
Pathophysiology of the cartilage growth plate



- focused microarrays for the molecular characterization of mouse models for skeletal dysplasia



DNA microarray-based monitoring of aquatic ecosystems



- metals, industrial chemicals, insecticides, endocrine-disrupting drugs etc.
- identification of stress-responsive genes
- development of diagnostic qPCR assays

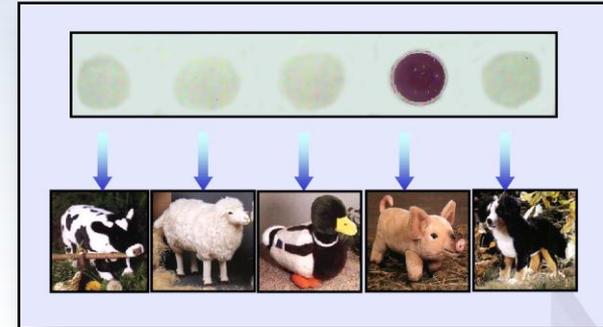
in cooperation with Prof. Dr. J. Oehlmann, University of Frankfurt

Products?

Yes, we can! :-)

DNA probes for species identification

- foodstuff
- cell culture typing



GENterphorese

- vertical separation:
fast, no smiling, low reagent costs
- pre-cast- gels
- highly affordable

