Ribonomics, Inc.

Bill Phelps, R&D Director

Genome Tri-Conferene 2002: Santa Clara, CA

Februrary 24, 2002

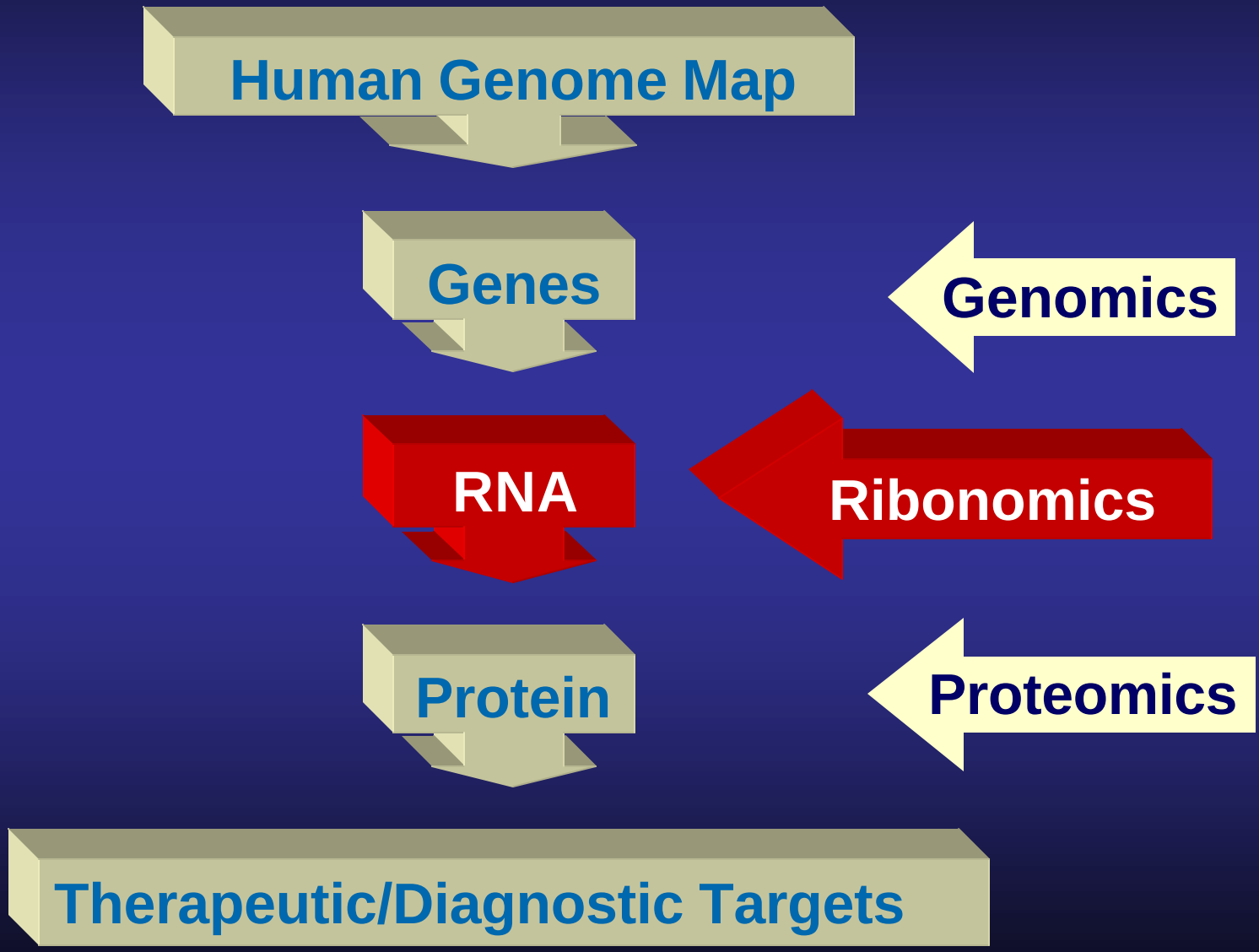
Mission

Ribonomics elucidates cellular pathways that regulate gene expression to discover novel targets for the diagnosis and therapy of human disease.

Overview - Ribonomics, Inc.

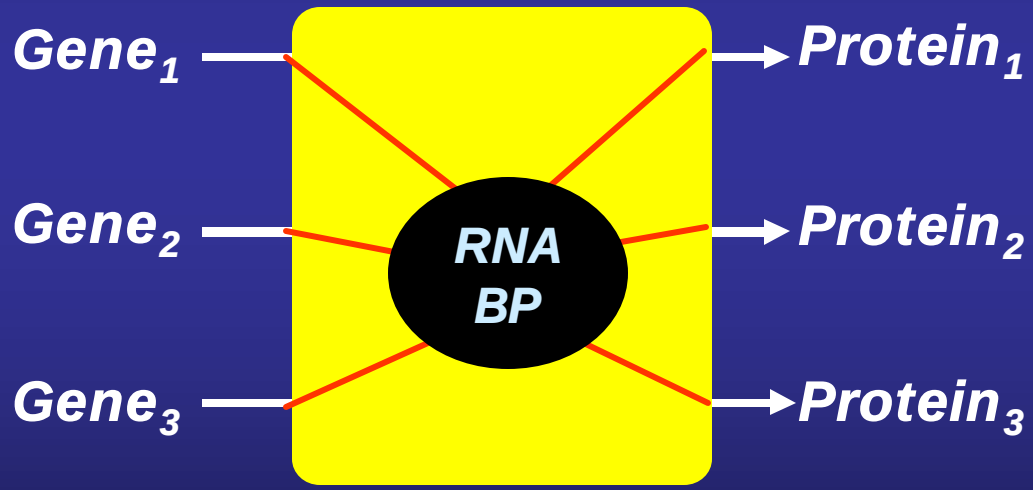
- Technology spun out of Duke University Medical School
- Operations launched in June 2001
- 7000 ft^2 state of the art lab facility in Research Triangle Park, NC
- 14 employees (9 Scientists/4 PhD)
- Series A funding provided by a single corporate partner: MBL Co., Ltd (Japan)
- Series B projected Q2/Q3 2002

From Genes to Targets



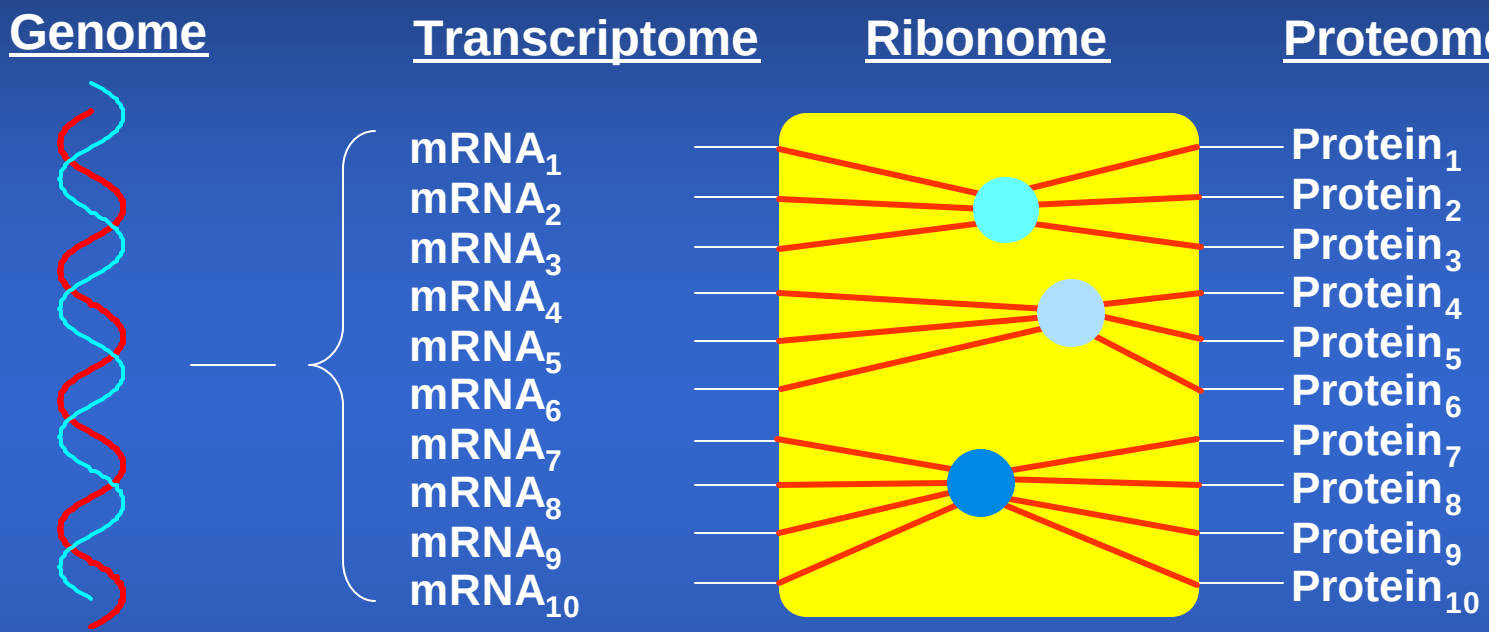
RNA Binding Proteins

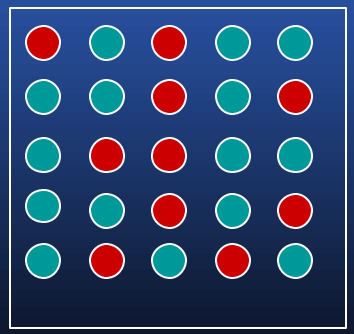
the Flow of Information from the Genome to the Pro



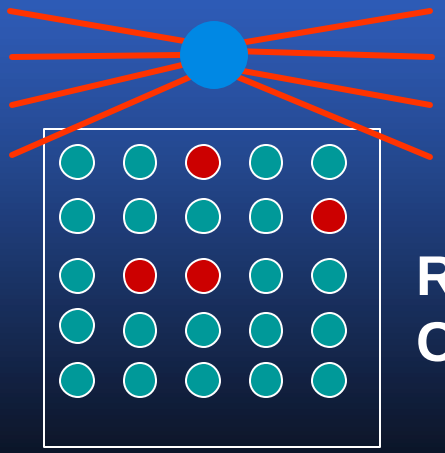
Ribonomic Cluster: A group of mRNAs that are defined by association with a specific RNA binding protein

Ribonomics: The Proprietary Analysis of Coordinately Regulated RNA Clusters



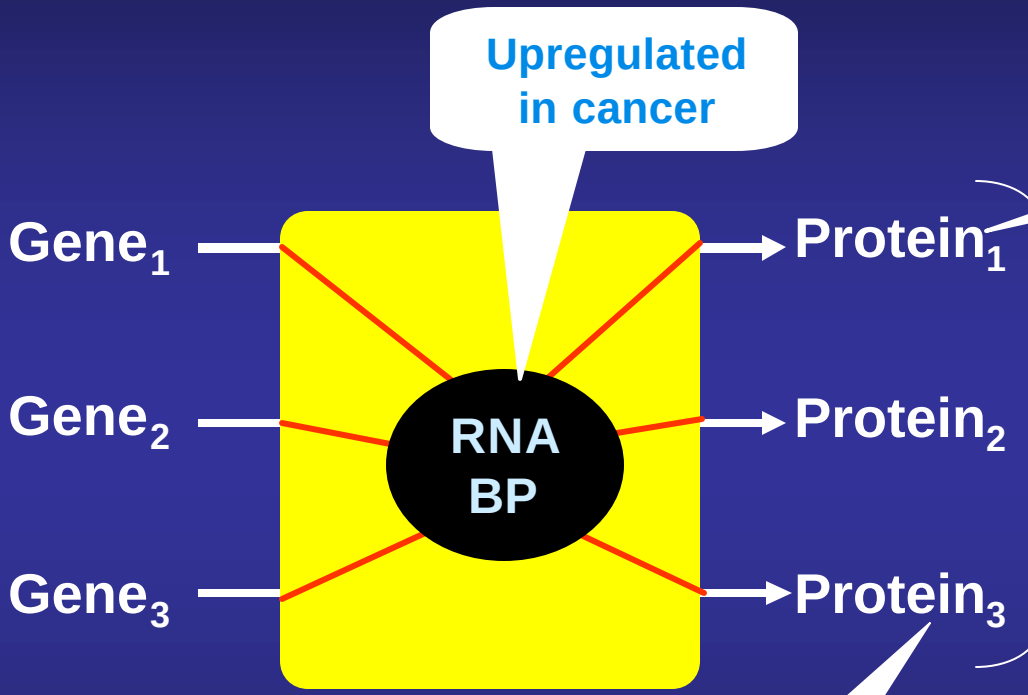


Total RNA



Ribonomic Cluster

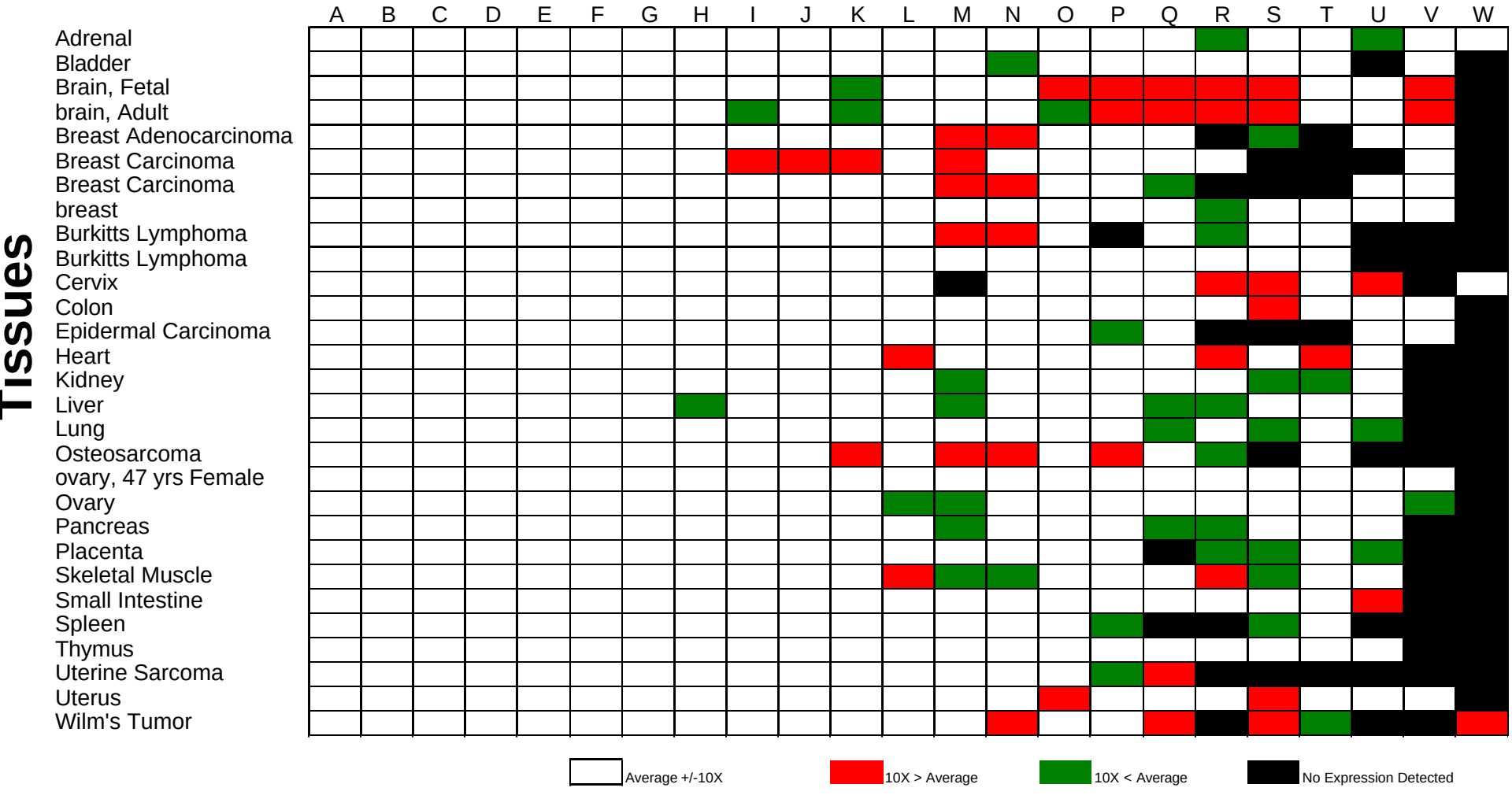
Functional Clusters



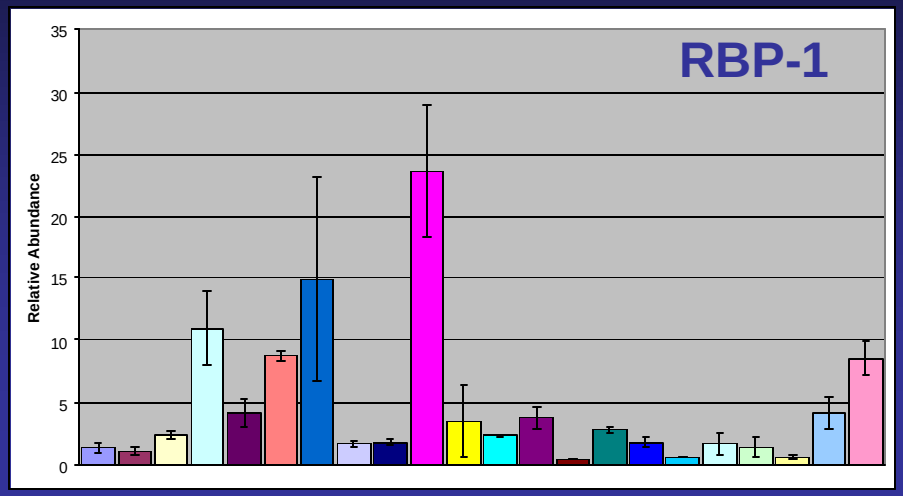
Proteins Are Functionally Related

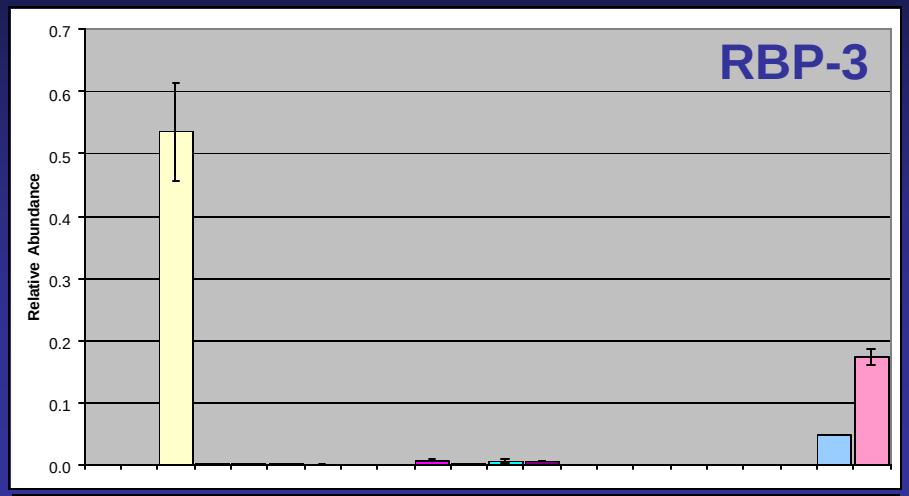
- to coordinate a cellular response
- to induce a biological response

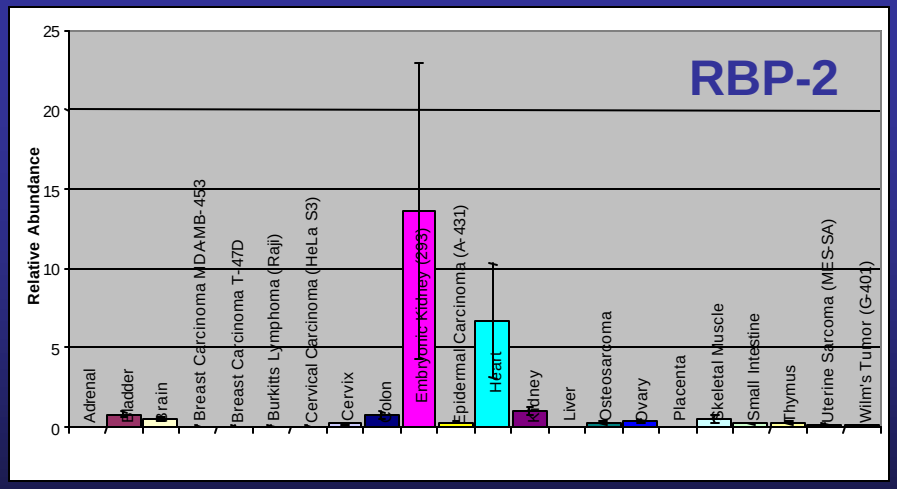
RNA BP Genes

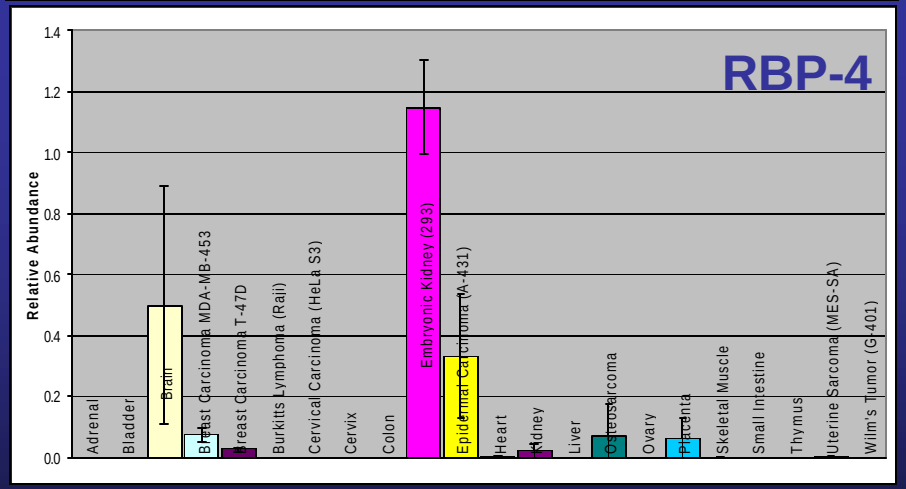

A B C D E F G H I J K L M N O P Q R S T U V W
Tissues
Adrenal
Bladder
Brain, Fetal
brain, Adult
Breast Adenocarcinoma
Breast Carcinoma
Breast Carcinoma
breast
Burkitts Lymphoma
Burkitts Lymphoma
Cervix
Colon
Epidermal Carcinoma
Heart
Kidney
Liver
Lung
Osteosarcoma
ovary, 47 yrs Female
Ovary
Pancreas
Placenta
Skeletal Muscle
Small Intestine
Spleen
Thymus
Uterine Sarcoma
Uterus
Wilm's Tumor
Average +/-10X
10X > Average
10X < Average
No Expression Detected

RiboMap (QPCR)



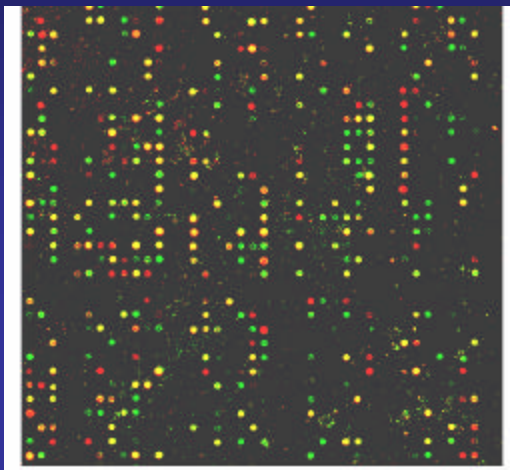






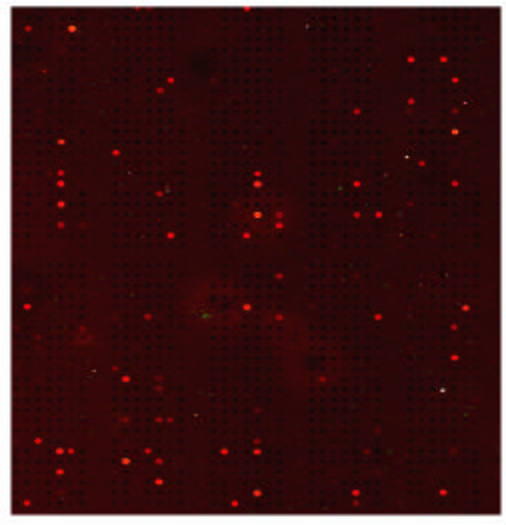
The Ribonomic Advantage

Total RNA



1. Novel growth factor receptor mRNA, 3' cds
2. HSPC010 mRNA
3. cp19 homeobox from HOX-3 locus
4. DKFZp434I068_r1 434 (synonym: htes3)
5. DKFZp434I1820
6. PAX-9 mRNA
7. Transitional epithelia response (TERE1) mRNA
8. IMAGE:3124866
9. Cyclooxygenase (COX-2)
10. E2-25K ubiquitin conjugating enzyme

Cluster RNA



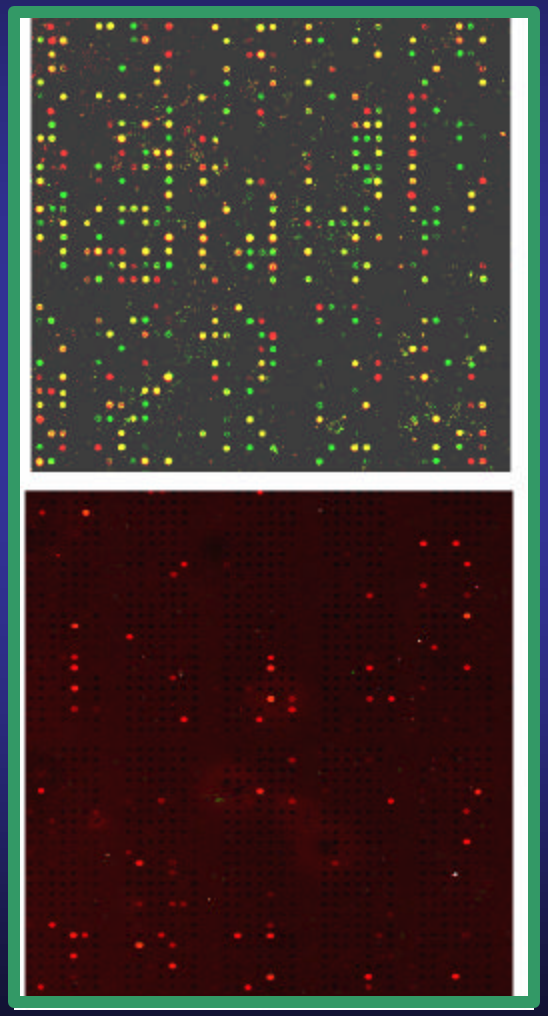
1. Transitional epithelia response (TERE1) mRNA
2. LUPUS KU AUTOANTIGEN
3. KERATIN, TYPE II CYTOSKELETAL 8
4. PAX-9 mRNA
5. IMAGE:2364179
6. clone 24566
7. nuclear factor NF-IL6
8. H_DJ0555L14.2
9. ATF6
10. IMAGE:2980306

RAS

Separating the wheat from the chaff

Total RNA

RBP-1



- Global view of transcriptome
- Low sensitivity
- Complex Data Sets

- Enriched subset of mRNAs
- Higher Sensitivity
- Focus--Simplifies Data sets
- Are coordinately regulated
- Many in same pathway, i.e. ‘functionally related’
- Identity of Novel Components

The Ribonomic Value

- Enables use of the cell's own organization to analyze and simplify gene expression
- Enables the discovery of novel targets by elucidating functional relationships between genes
- Bridges the gap from Genomics to Proteomics

Business Model

Ribonomics, Inc. is pursuing novel therapeutic and diagnostic targets in

- **Cancer**
- **Metabolic Disease**
- **CNS**

Ribonomics seeks to develop strategic technology partnerships and focused research collaborations to extend our technology platform into key scientific areas.

Ribonomics, Inc.