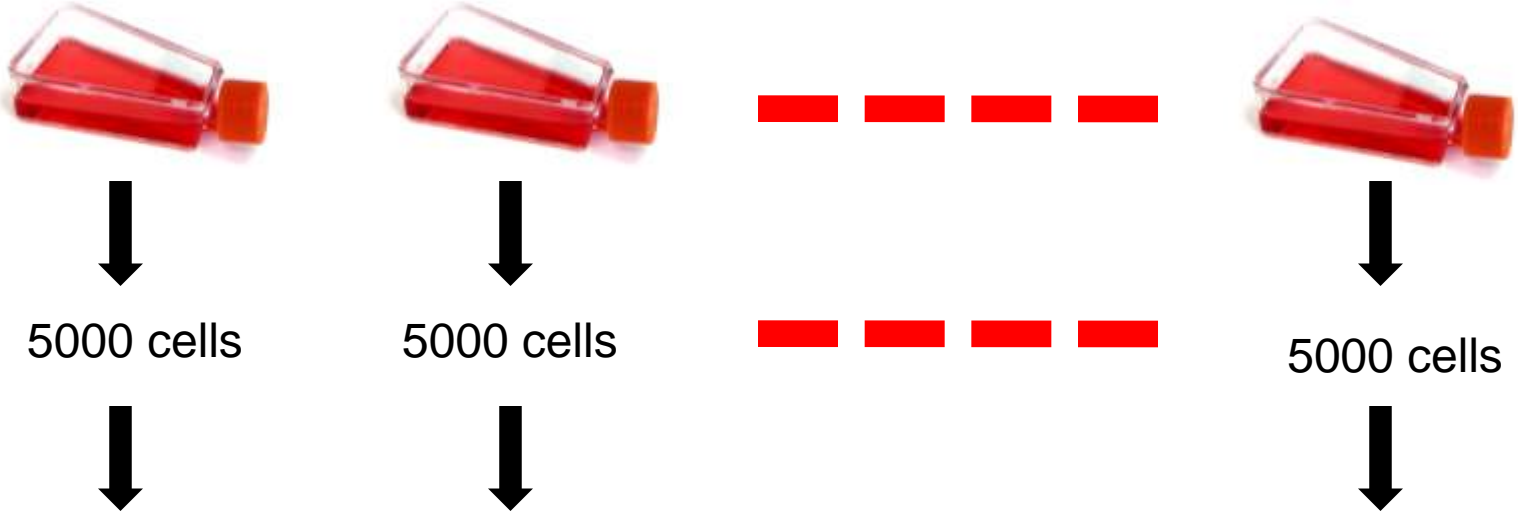


Cells provided by user from 17 cell lines

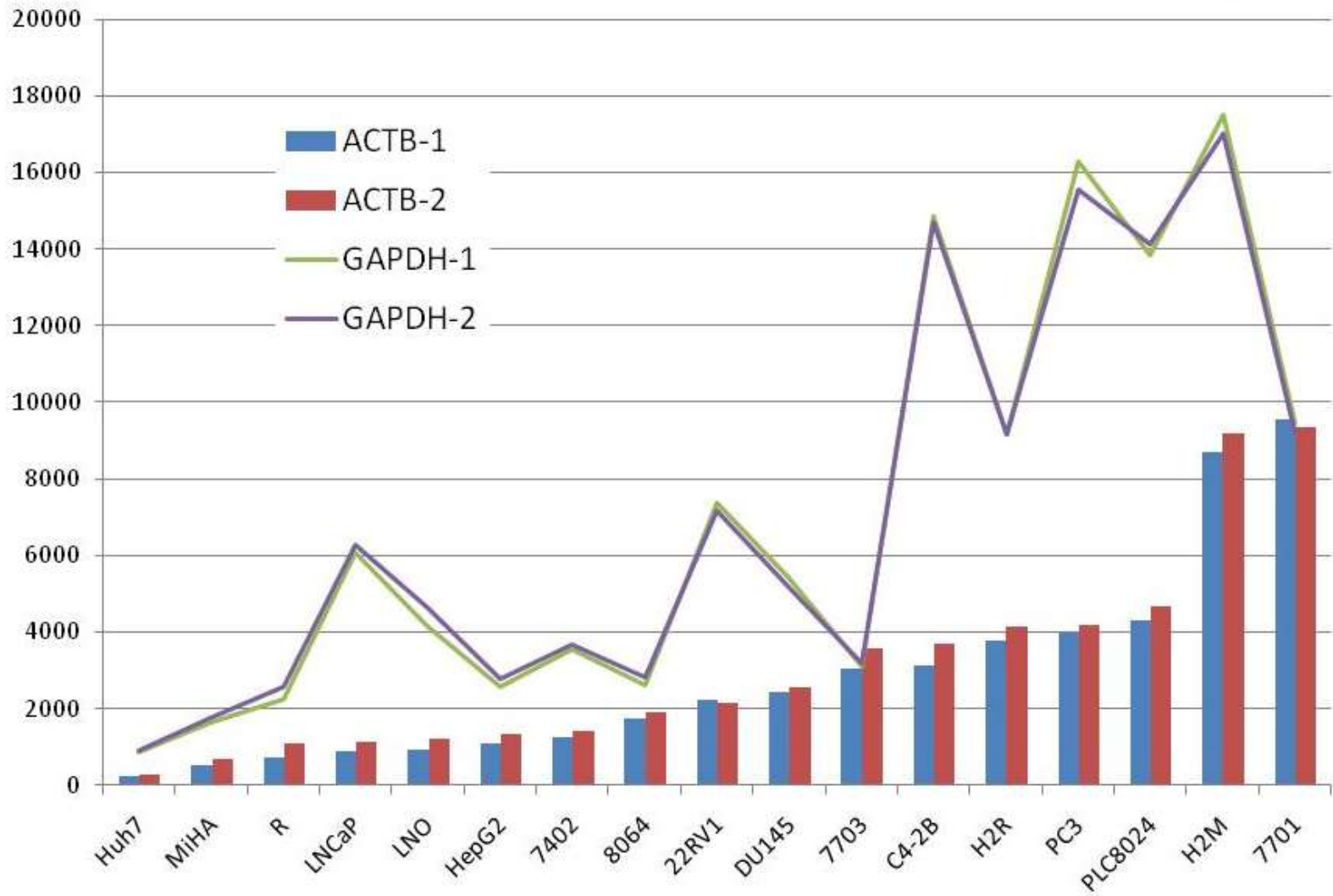


Quant-Gene Plex assay on the GRC Bio-Plex platform



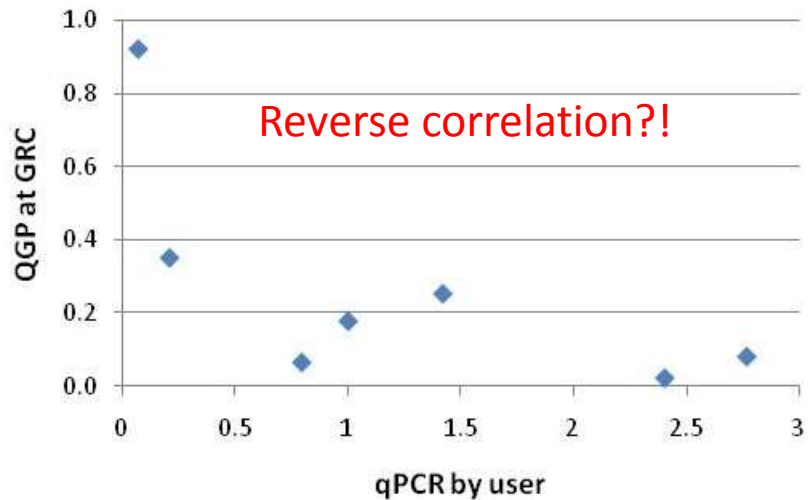
Data comparison with qPCR data from user

## "Housekeeping Genes" Level in Cultured Cells (5000 cells)

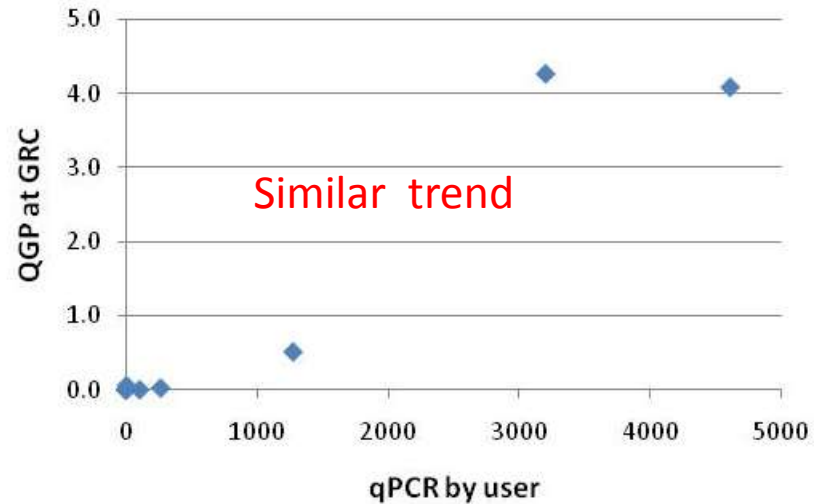


# Data Correlation – QGP vs qPCR in Cell Lines

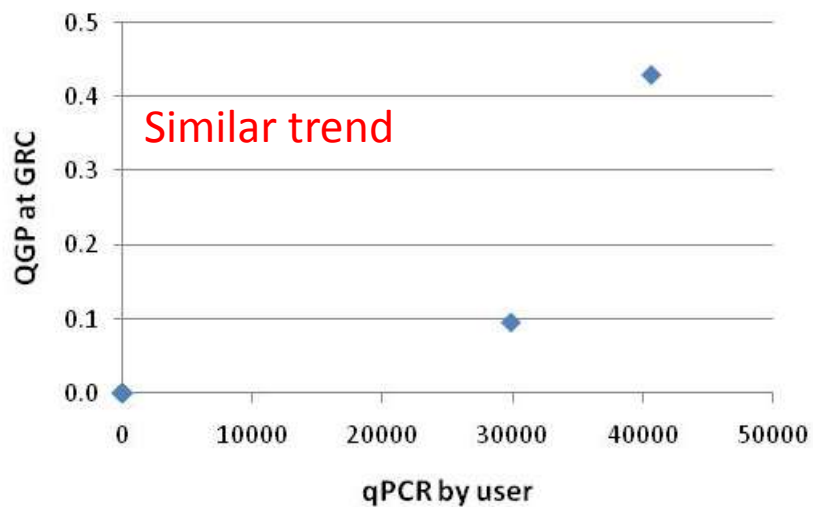
## Gene A / ACTB



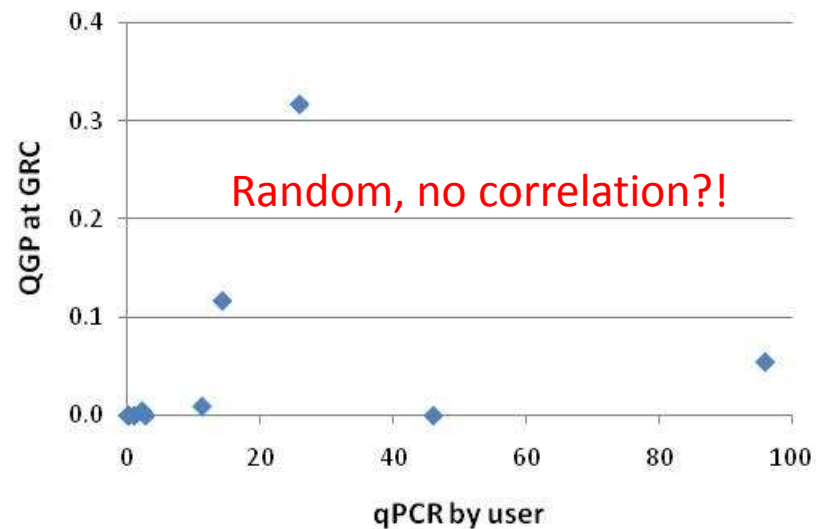
## Gene B / ACTB



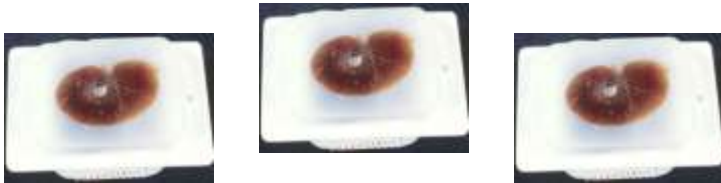
## Gene C / ACTB



## Gene D / ACTB



Frozen and Paraffin tissue sections provided by user



Few sections from each block



Few sections from each block

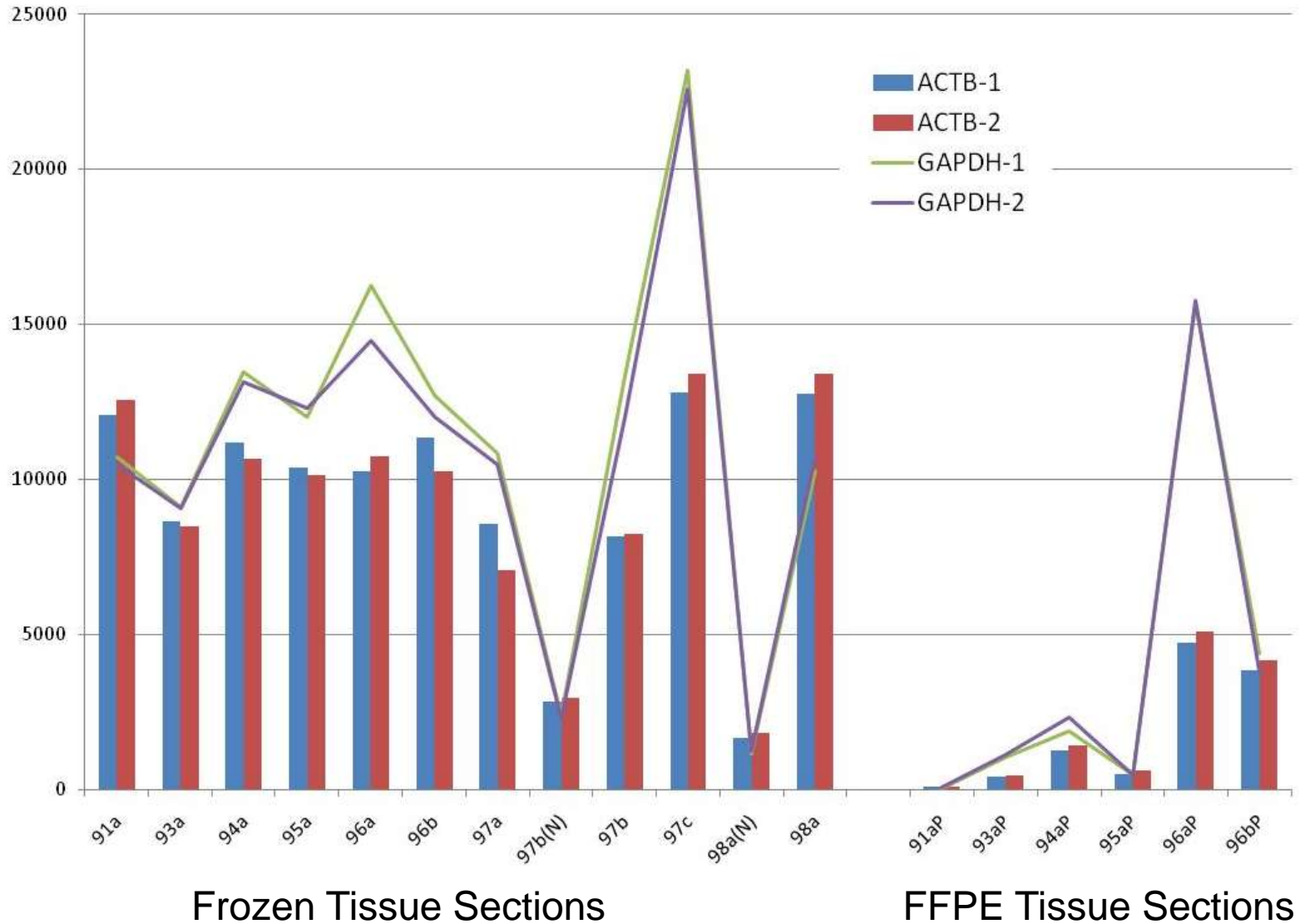


Quanti-Gene Plex assay on the GRC Bio-Plex platform

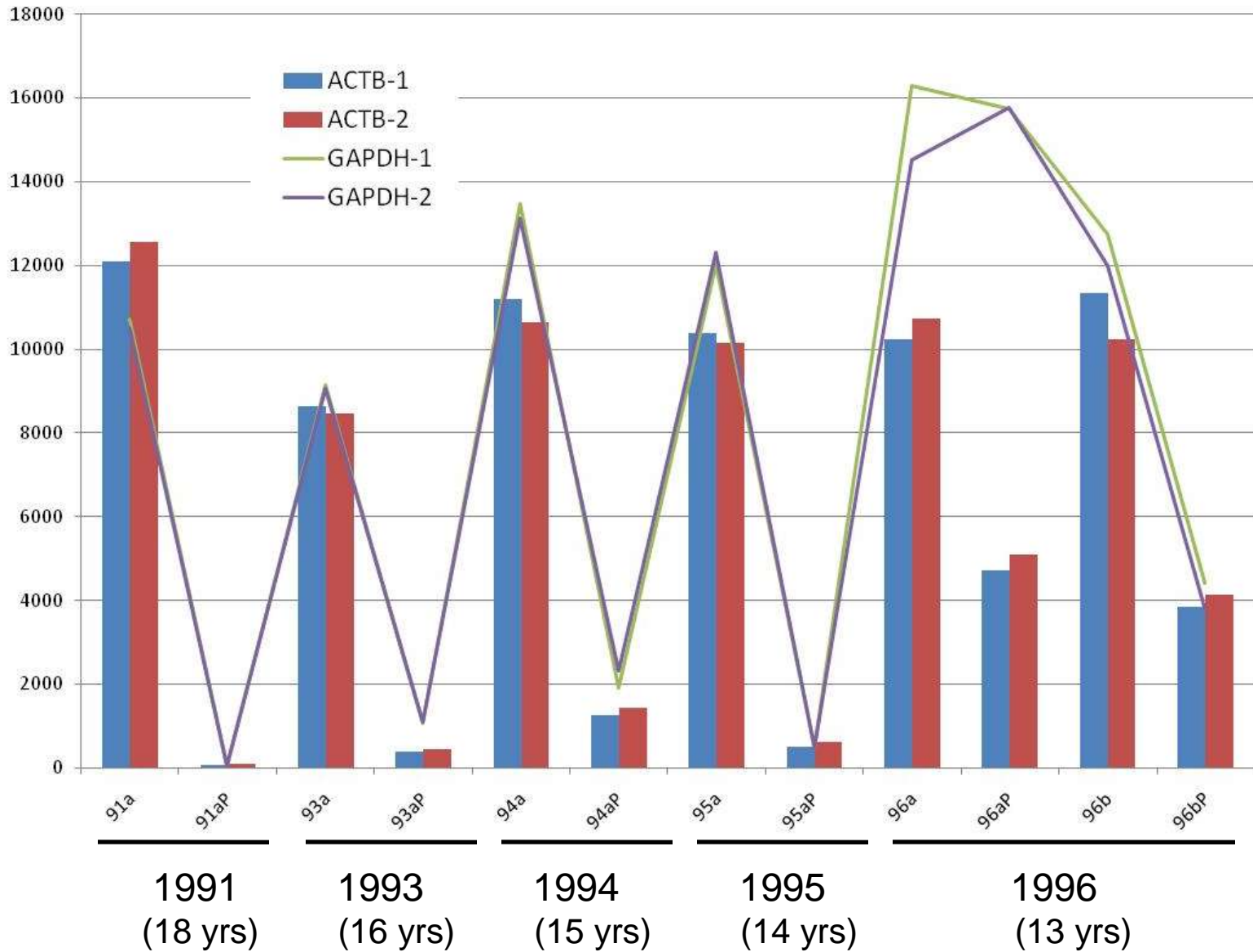


Data comparison with qPCR data from user

## "Housekeeping Genes" Level in Tissue Sections

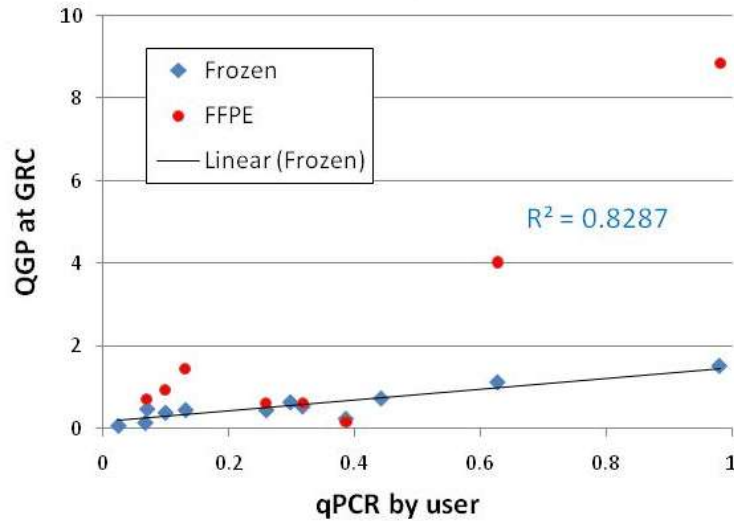


## "Housekeeping Genes" Level in Tissue Sections

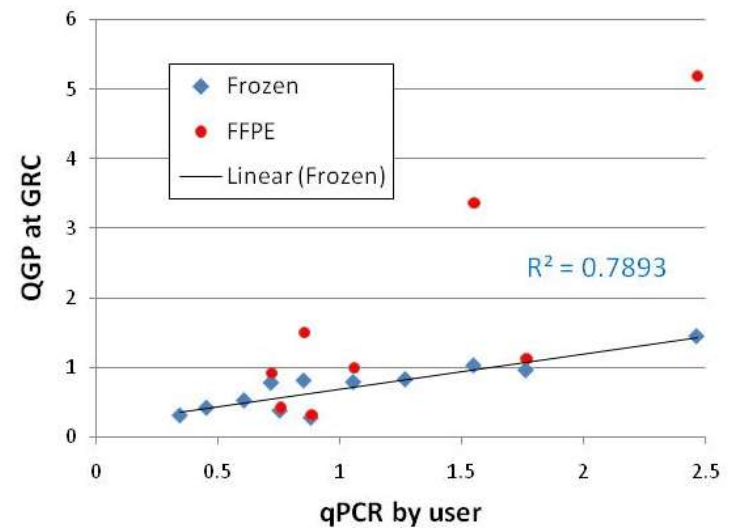


# Data Correlation – QGP vs qPCR in Tissue Sections

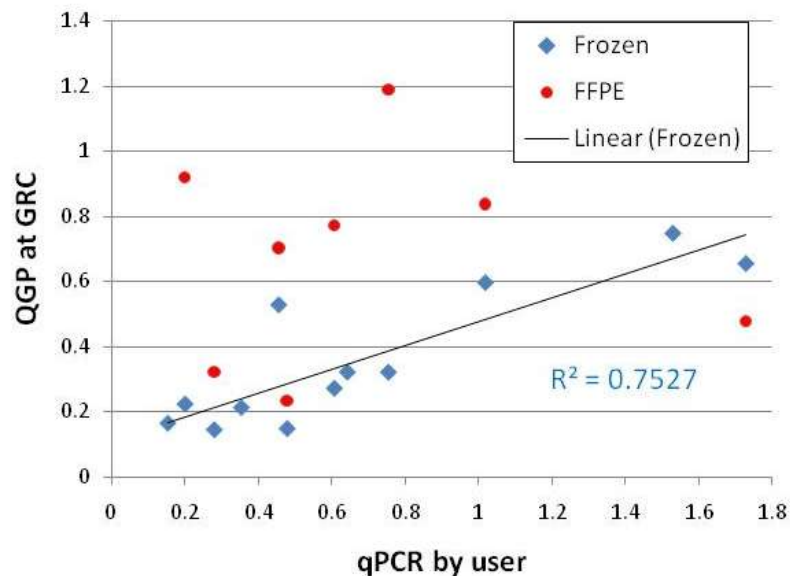
## Gene A / GAPDH



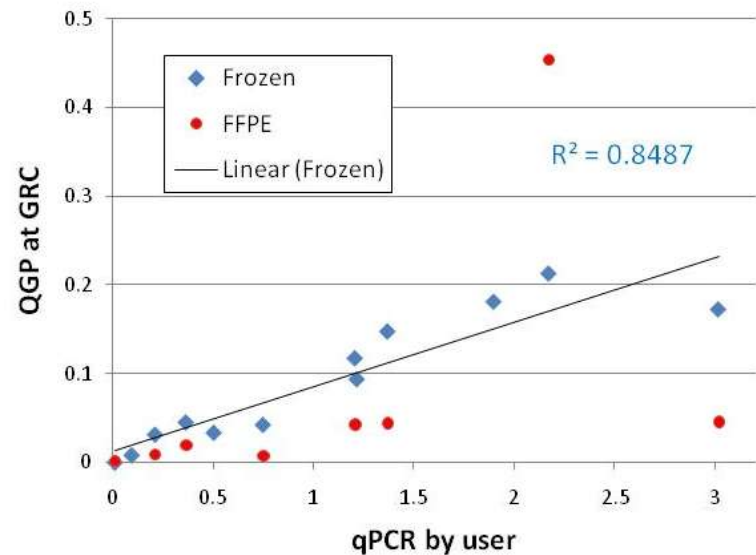
## Gene M / GAPDH



## Gene I / GAPDH

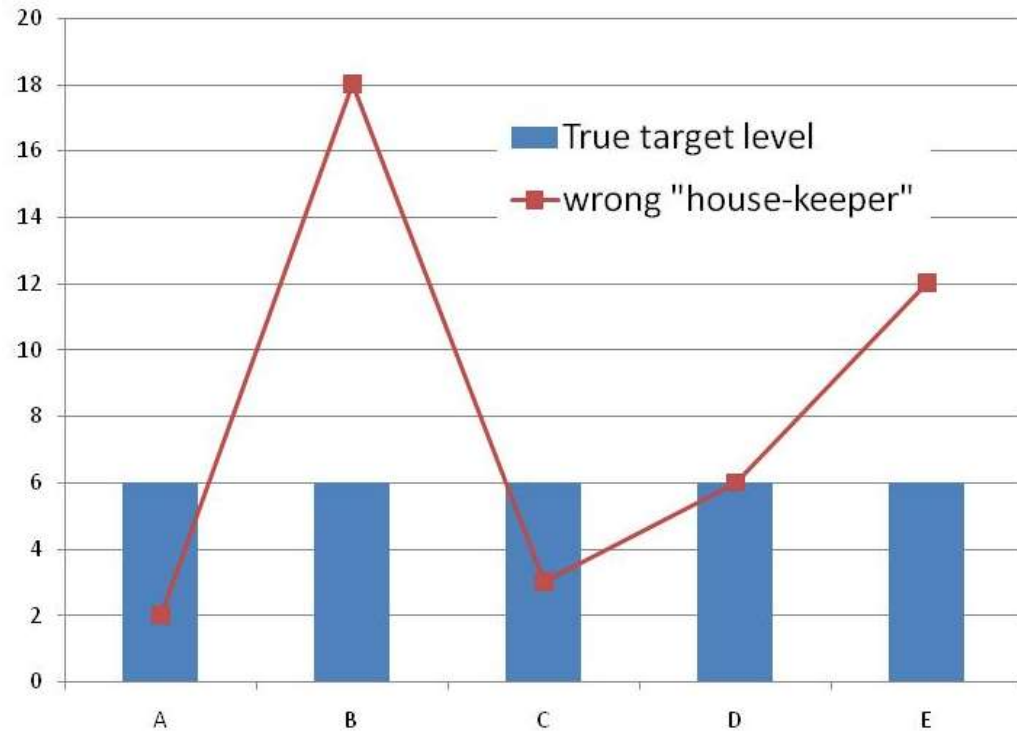


## Gene C / GAPDH



## Lesson #1:

### Is my "housekeeping" gene really constant?



Normalized target gene level

3

0.33

2

1

0.5

**But the truth is, target gene level is constant!**



## Lesson #2:

Do **NOT** expect perfectly match results when switching technologies!



≠



≠



## Lesson #3:

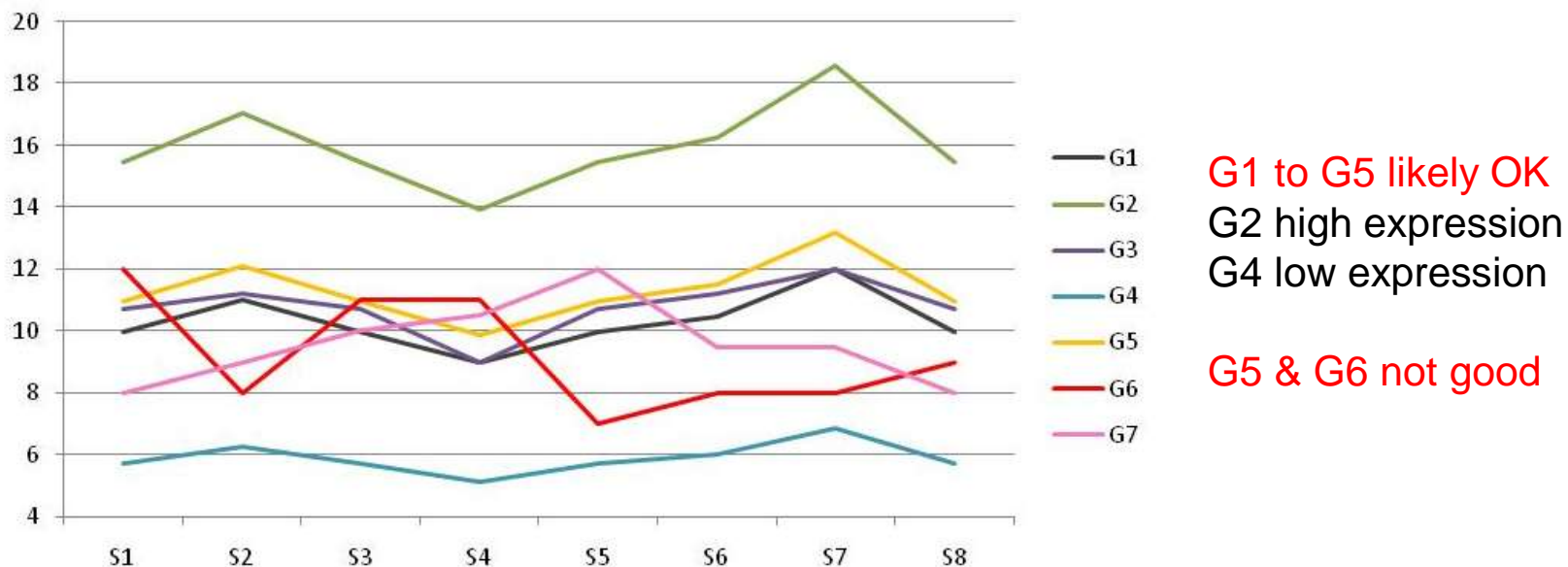
**Know the power but also limitations of different technologies to make a wise choice!**

	qPCR on your own	QGP at the GRC	Microarray at the GRC
Frozen samples with good quality RNA	No problem	No problem	No problem
Paraffin samples (not fossils)	Can try but you may suffer	No problem	Forget it
RNA quality (28S/18S)	??	>1.0	>1.8
Target genes	<5	5 - 40	Tens of Thousands
Sample size	Hundreds	40 - hundreds	Few
Money	Little	Some	Lots
Waiting time	Varies	Days	Weeks
Manpower	Plenty	Little	Little

## Lesson #4:

When data has proved experimental flaws, do not be afraid to address it.

- ❑ GRC may offer housekeeping genes screening
- ❑ Using Panomics 30-plex housekeeping genes panel
- ❑ Identify the **BEST** housekeeper before continuation with qPCR

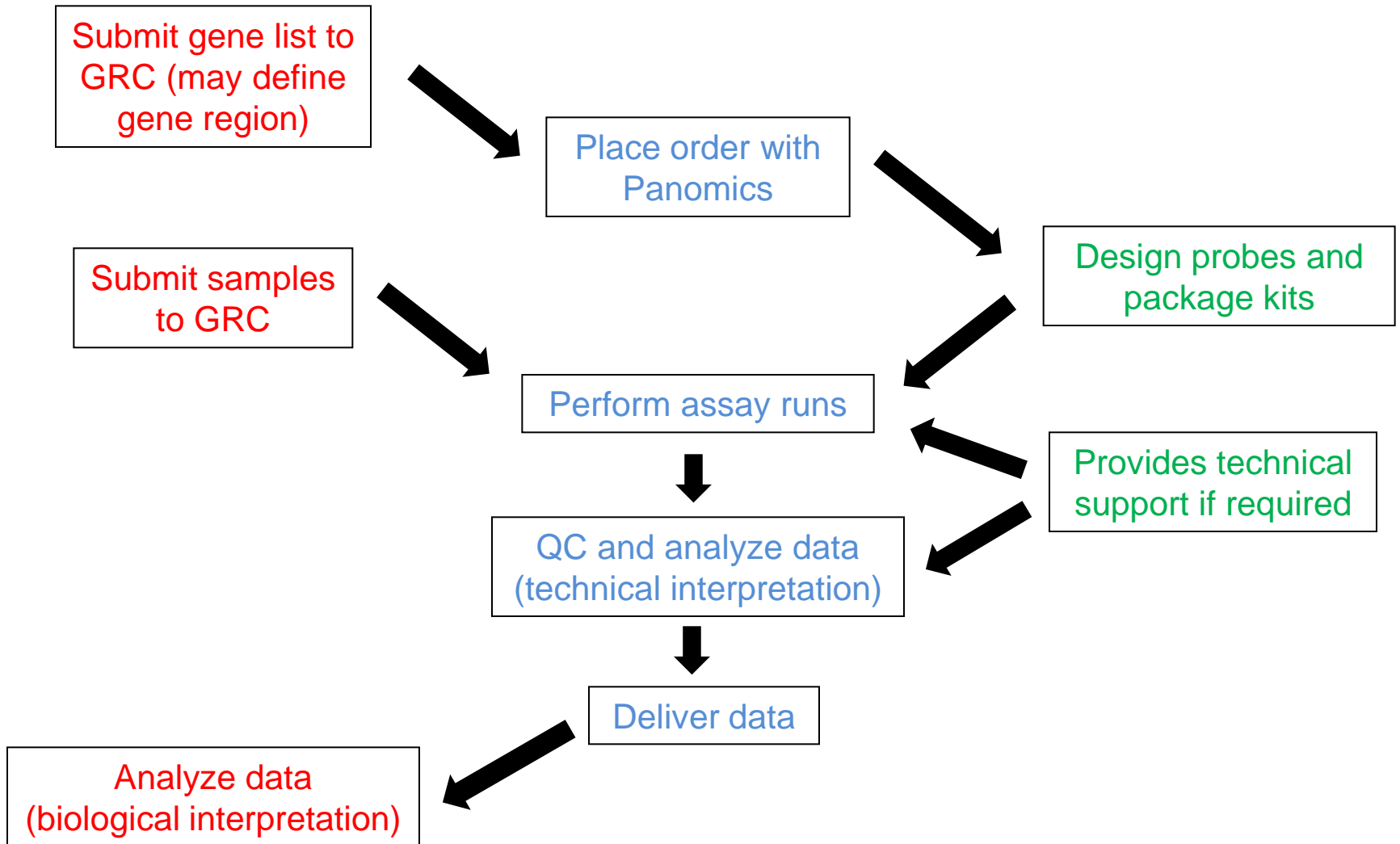


# Work Flow Logistics

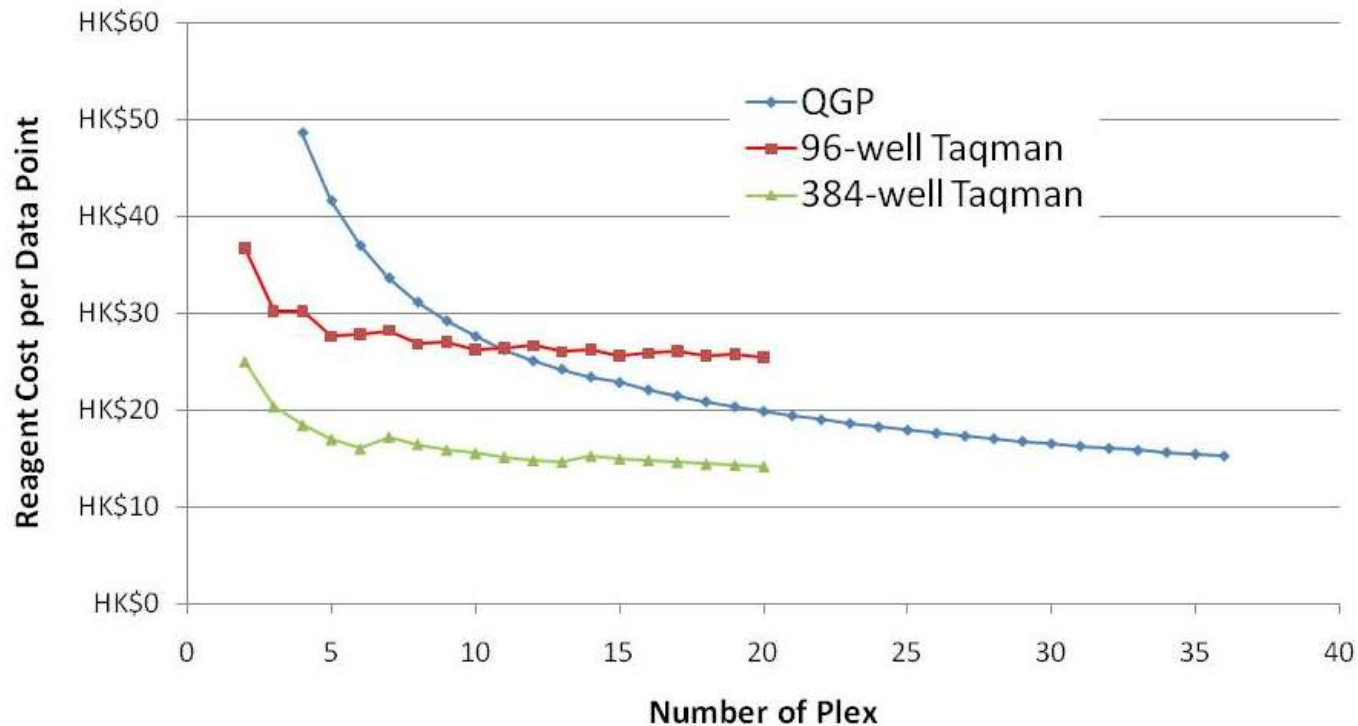
**USER**

**GRC**

**Affymetrix/Panomics**



# Cost Comparison (rough estimation)\*



## Cost **NOT** included:

- RNA extraction reagent (required for Taqman qPCR)
- Reverse Transcription reagent (required for Taqman qPCR)
- Instrument running cost
- Labour cost

\* Reagent cost will vary with package size and sample number

# Acknowledgement

Cell lines with qPCR data

Dr. Stephanie Ma

Prof. XY Guan

Frozen and FFPE tissue sections with qPCR data

Dr. Helen Yan

Prof. SY Leung

Ms. Annie Chan

Reagents & Technical Support

Affymetrix / Panomics – Dr. Zhang Hao

Genetimes – Mr. Gio Wong, Mr. Paul Chan

GRC colleague

Mr. Wilson Chan