An assessment of q-PCR accuracy based on RNA-seq

presented by V. Sherina

December 14, 2015

Introduction

The **National Center for Biotechnology Information** (NCBI) is part of the United States National Library of Medicine (NLM), a branch of the National Institutes of Health.

GEO

GEO is a public functional genomics data repository supporting MIAME-compliant data submissions. Array- and sequence-based data are accepted.

Tools are provided to help users query and download experiments and curated gene expression profiles.

Motivation

- "A comprehensive assessment of RNA-seq accuracy, reproducibility and information content by the sequencing quality control consortium." Nature Biotechnology (2014), by SEQC/MAQC-III Consortium.
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Table: qPCR 96 well plates

Plate no	Plate start	Control gene	Plate end
1	1	42	96
2	97	98	192
3	193	194	288
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5	385	412	480
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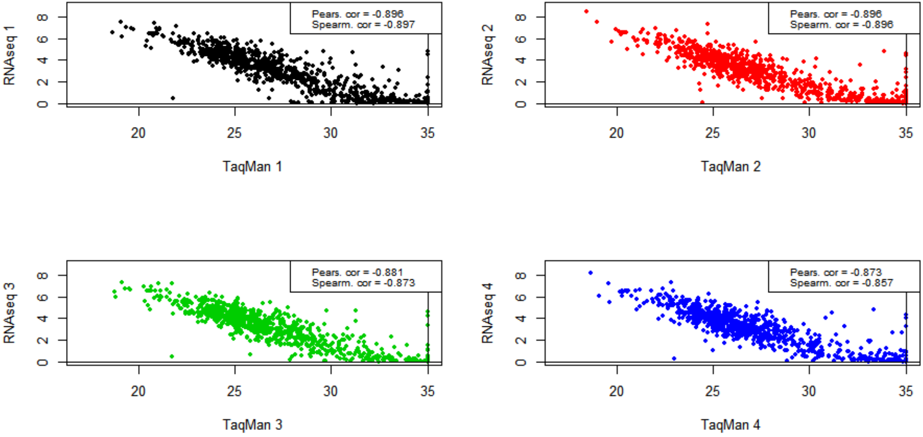
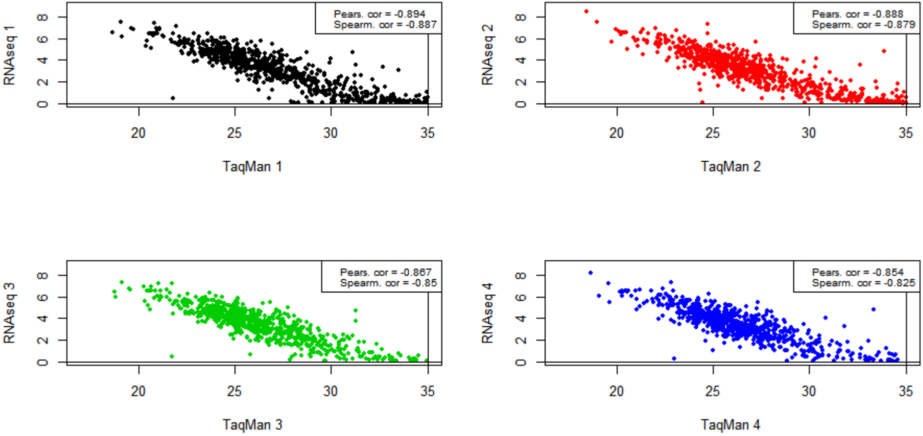
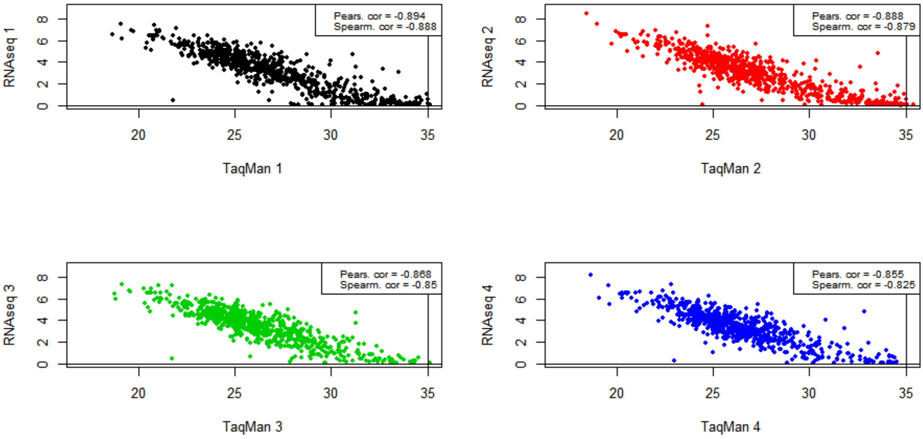
All genes in the data



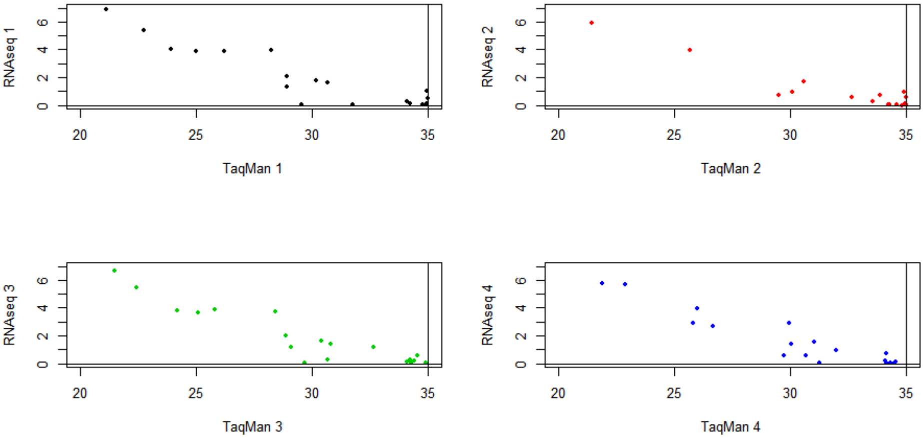
Genes absent across samples were excluded



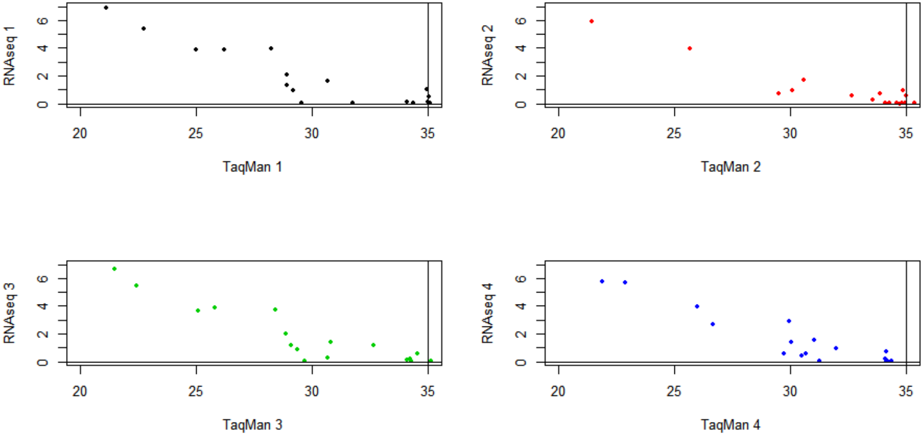
With imputed missing values



Extreme values, excluded genes



Extreme values, imputed missing data points



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- CRISP3 (Cysteine-Rich Secretory Protein 3) is a Protein Coding gene. Diseases associated with CRISP3 include prostate cancer.
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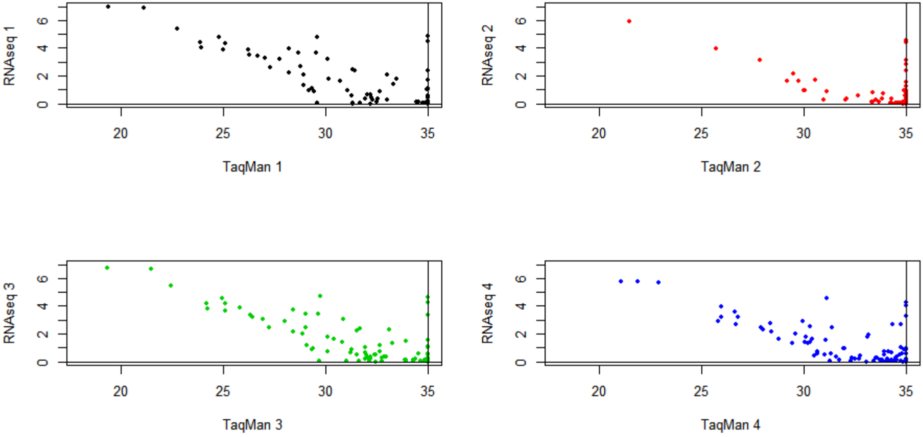

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- M.N. McCall, H.R. McMurray, H. Land and A. Almudevar *On non-detects in Quantitative real-time PCR data.* Bioinformatics V. 30 no. 16, 2310-2316, 2014.
- GeneCards: *The Human Gene Database*, http://www.genecards.org/

Thank you for your attention!

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