

# Comparison of the GeneChip 3' IVT Express to the One-Cycle Target Labeling Kits

This Technical Note compares performance of the new 3' IVT Express Assay with the One-Cycle Target Labeling kits from Affymetrix.

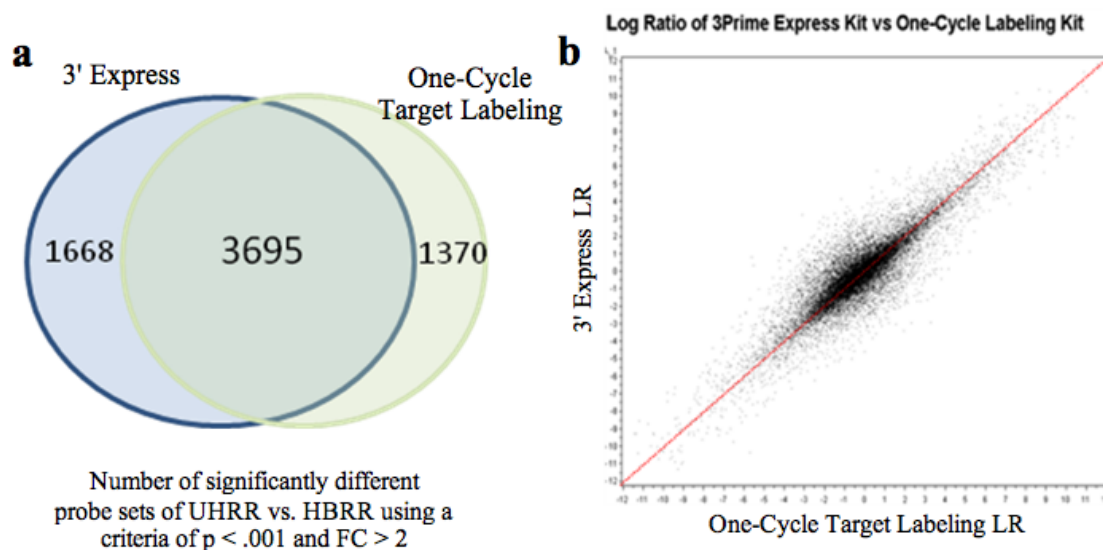
## GeneChip 3' IVT Express Assay

### Key features of this assay:

- Low RNA input requirements - as little as 50 ng total RNA for a single round of amplification
- Streamlined workflow with a simple protocol for a high rates of success and repeatability
- Fewer reagents needed for entire amplification and labeling process
- Magnetic bead purification for enhanced recovery

### Comparing Performance with the One-Cycle Target Labeling IVT kit

Expression Analysis (EA) independently amplified, labeled, and hybridized three replicates of the Universal Human Reference RNA (UHRR) and three replicates of the Human Brain Reference RNA (HBRR), the reference samples featured in the MAQC<sup>1</sup> study, with both labeling kits. To assess general performance characteristics in a differential discovery context, we examined several measures implemented in EA's Microarray Proficiency Testing program. For brevity's sake, a subset of the results from these measures are presented here. All measures were examined using MAS5-based signal on the HG-U133A\_2 GeneChip. Differential expression performance is highlighted in Figure 1.



**Figure 1a and 1b:** Comparing differential expression of UHRR vs. HBRR using the two kits. The gene list overlap averages 70%. The 3' Express kit found more differentially expressed genes. The log ratio (UHRR/HBRR) estimates from each kit are not biased with respect to each other and there are no outliers, even when using the entire chip content (> 22,000 probesets). The correlation of the LR estimates is .90.



