Published Transcriptional Signatures for Oncogenic Pathways

In Dry et al “Transcriptional pathway signatures predict MEK addiction and response to AZD6244”, pathway enrichment\(^1\) was enhanced using published transcriptional signatures relating to activity of oncogenic pathways. RAF/MEK/ERK\(^{2-12}\), RAS\(^{11-15}\), PTEN/PI3K/AKT/TOR\(^{16-39}\), HR\(^{40-61}\), P53\(^{61-63}\), BER\(^{64-72}\), FGFR\(^{73-90}\), multi-drug resistance mechanisms\(^91\), Other\(^{15,33,89,92,93}\).

- Using raw data (supplementary to publication or retrieved via Gene Expression Omnibus, http://www.ncbi.nlm.nih.gov/geo/) or Oncomine\(^94\) (where possible) lists were expanded by relaxing statistical filtering to t-test p<0.05.
- Genelist information was stored in the ADOPT (A Database of Oncogenic Pathway Transcriptsomes) database, enabling the intersect of genelists (controlling for the directionality of differential expression with respect to pathway activity) to be found.

26. Packer, L et al. Osteopontin is a downstream effector of the PI3-kinase pathway in melanomas that is inversely correlated with functional PTEN. Carcinogenesis (2006) 27(9), 1778
81. Greber, B et al. Fibroblast growth factor 2 modulates transforming growth factor beta signaling in mouse embryonic fibroblasts and human ESCs (hESCs) to support hESC self-renewal. Stem Cells (2007) 25(2), 455
88. Bernard-Pierrot, I et al. Inhibition of human bladder tumour cell growth by fibroblast growth factor receptor 2b is independent of its kinase activity. Involvement of the carboxy-terminal region of the receptor. Oncogene (2004) 23(57), 9201