Table S4. *In-vivo* examples of dose-response correlations of individual genes per time point

Dose response correlations per time point of individual genes that belong to gene sets: KEGG nucleotide excision repair, KEGG cell cycle, KEGG extrinsic apoptosis and IARC p53 responsive elements, in the in-vivo experiment (set up as Table 2).

| Nucleotide Excision Repair | | | | | | | |
|---|---|---|---|---|---|---|---|
| gene | 1h | 3h | 6h | 9h | 12h | 24h | 48h |
| Pole3 | -0.97 | | | 0.97 | 0.97 | 0.92 | |
| Pold4 | | 0.89 | 0.91 | | | | |
| Mnat1 | | -0.87 | -0.95 | | | | |
| Pole4 | | 0.86 | 0.93 | 0.85 | | | |
| Ercc1 | | 0.86 | | 0.82 | 0.81 | | |
| Ercc6 | | | 0.96 | | | | |
| Rfc5 | | | 0.9 | -0.8 | 0.95 | | 0.94 |
| Ercc5 | | | 0.88 | 0.81 | | | |
| Rfc1 | | | -0.86 | | | | 0.85 |
| Ccnh | | | -0.84 | | | 0.95 | |
| Ddb2 | | | | -0.96 | | | |
| Xpc | | | | -0.93 | | | |
| Gtf2h3 | | | | 0.88 | | | |
| Rfc3 | | | | 0.87 | 0.98 | | 0.92 |
| Pcna | | | | 0.81 | 0.86 | | |
| Cdk7 | | | | 0.81 | | | |
| Xpa | | | | | -1 | | |
| Pole2 | | | | | 0.99 | | |
| Gm9840 | | | | | 0.97 | 0.92 | |
| Gtf2h1 | | | | | 0.95 | 0.87 | |
| Gtf2h5 | | | | | 0.92 | 0.9 | |
| Rfc2 | | | | | 0.91 | | 0.84 |
| Rpa2 | | | | | 0.91 | | 0.82 |
| Lig1 | | | | | 0.85 | | 0.81 |
| Rfc4 | | | | | 0.84 | | |
| Pole | | | | | 0.8 | | 0.92 |
| Rbx1 | | | | | 0.8 | | |
| Ddb1 | | | | | | | 0.88 |
| Ercc2 | | | | | | | 0.86 |
| Pold3 | | | | | | | 0.84 |
| Rpa1 | | | | | | | 0.81 |

location of the sweet spot

| Cell Cycle | | | | | | | |
|---|---|---|---|---|---|---|---|
| gene | 1h | 3h | 6h | 9h | 12h | 24h | 48h |
| Ccnd3 | 1 | | | | | | |
| E2f3 | -0.91 | | | | | | |
| Rb1 | -0.9 | | -0.91 | | | | |
| Mad2l2 | 0.88 | | | | | | 0.93 |
| Cdc25c | -0.86 | | | | | | 0.8 |
| Ccnb2 | -0.85 | | -0.86 | | | | |
| Fzr1 | 0.83 | | 0.86 | | | | |
| Tgfb1 | 0.81 | | -0.84 | | | | |
| Smad3 | 0.81 | | | | | | |
| Pkmyt1 | | 0.98 | | | | | 0.94 |
| Smc3 | | -0.97 | | | | -0.88 | |
| Cdc14b | | -0.96 | -0.88 | -0.81 | -0.91 | | |
| E2f5 | | 0.93 | | | | | |
| Myc | | 0.91 | | | | | |
| Anapc7 | | 0.88 | | | 0.91 | | |
| Anapc4 | | -0.86 | | | | | |
| Gadd45g | | 0.83 | | | | | |
| Cdc14a | | 0.82 | | | | -0.81 | |
| Tgfb3 | | | -0.93 | | | | 0.83 |
| Mdm2 | | | 0.92 | 0.89 | 0.8 | 0.88 | |
| Cdkn1a | | | 0.91 | 0.86 | 0.95 | 0.94 | 0.85 |
| Chek2 | | | -0.89 | | 0.9 | | |
| Stag2 | | | -0.88 | | | | |
| Atr | | | -0.86 | | -0.94 | | |
| Mad2l1 | | | -0.85 | | 0.96 | | |
| Ccna2 | | | -0.85 | | | | 0.88 |
| Cdkn2d | | | -0.85 | | | | |
| Bub1b | | | -0.84 | -0.9 | | | |
| Ccnh | | | -0.84 | | | 0.95 | |
| Ccnd2 | | | -0.83 | | | | |
| Cdk6 | | | -0.83 | | | 0.85 | |
| Cdc20 | | | -0.82 | | 0.8 | | 0.92 |
| Cdc25b | | | -0.81 | | | | |
| Cdc7 | | | 0.8 | | 0.93 | | 0.94 |
| Stag1 | | | -0.8 | | | | |
| Rbl2 | | | | -0.97 | | -0.86 | |
| Bub1 | | | | -0.91 | | | 0.86 |
| Rbl1 | | | | -0.91 | | | 0.92 |
| Tfdp2 | | | | -0.89 | | -0.85 | |
| Ywhab | | | | 0.85 | | 0.85 | |
| Cdc16 | | | | 0.82 | | | |
| Pcna | | | | 0.81 | 0.86 | | |
| Cdk7 | | | | 0.81 | | | |
| Mcm4 | | | | | 0.98 | | 0.86 |
| Gm9840 | | | | | 0.97 | 0.92 | |
| Ccnd1 | | | | | 0.95 | | |
| Cdkn1c | | | | | -0.95 | | |
| Gm2423 | | | | | 0.94 | | |
| Ccnb3 | | | | | -0.94 | | |
| Mcm7 | | | | | 0.93 | | 0.94 |
| Dbf4 | | | | | 0.92 | | 0.84 |
| Cdc23 | | | | | 0.92 | | |
| Cdc2a | | | | | 0.91 | | 0.87 |
| Ywhaq | | | | | 0.91 | | |
| Bub3 | | | | | 0.89 | | 0.88 |
| Cdc45l | | | | | 0.89 | | 0.95 |
| Ep300 | | | | | 0.88 | 0.89 | |
| Prkdc | | | | | -0.85 | -0.86 | |
| Orc6l | | | | | 0.85 | | |
| Ywhag | | | | | 0.84 | | |
| Orc3l | | | | | -0.84 | | |
| Orc2l | | | | | 0.83 | | |
| Cdkn2b | | | | | 0.82 | | |
| Orc1l | | | | | 0.82 | | 0.88 |
| Orc4l | | | | | 0.82 | 0.82 | |
| Rbx1 | | | | | 0.8 | | |
| E2f4 | | | | | | 0.81 | |
| Ccne2 | | | | | | | 0.84 |
| Mcm3 | | | | | | | 0.94 |
| Mcm2 | | | | | | | 0.85 |
| Mcm5 | | | | | | | 0.9 |
| Tfdp1 | | | | | | | 0.8 |
| Tgfb2 | | | | | | -0.92 | |
| Trp53 | | | | | | 0.88 | |
| Pttg1 | | | | | | | 0.85 |
| Sfn | | | | | | 0.86 | |
| Anapc11 | | | | | | | 0.82 |

| Extrinsic Apoptosis | | | | | | | |
|---|---|---|---|---|---|---|---|
| gene | 1h | 3h | 6h | 9h | 12h | 24h | 48h |
| Irak4 | 0.93 | | | | | | |
| Il1rap | -0.91 | -0.82 | -0.9 | -0.85 | -0.8 | | |
| Akt3 | 0.89 | | | | -0.92 | | |
| Ppp3cc | -0.87 | | -0.82 | | | | |
| Akt2 | 0.86 | | | | | | |
| Pik3cb | -0.83 | -0.83 | | -0.85 | -0.92 | -0.8 | |
| Prkar1b | 0.83 | | | | | | |
| Csf2rb | 0.82 | | | | | | |
| Bcl2 | -0.81 | | -0.87 | | | -0.94 | |
| Irak2 | | -0.93 | | | | | |
| Ngf | | 0.9 | 0.9 | 0.81 | 0.99 | 0.84 | |
| Dffa | | -0.87 | -0.91 | | -0.88 | | |
| Prkacb | | -0.87 | -0.85 | | | -0.9 | |
| Bid | | 0.87 | | | | | |
| Pik3cd | | -0.87 | | | | | |
| Prkar1a | | 0.85 | | 0.9 | | | |
| Fas | | -0.85 | | | | | |
| Tnfsf10 | | -0.83 | | | | | |
| Pik3r5 | | -0.8 | | | | 0.81 | |
| Tnfrsf10b | | | 0.9 | 0.89 | 0.86 | 0.89 | |
| Myd88 | | | 0.9 | | | 0.82 | |
| Pik3ca | | | -0.9 | | | | |
| Ppp3ca | | | -0.89 | -0.89 | -0.98 | | |
| Pik3r2 | | | -0.87 | | | | |
| Nfkb1 | | | -0.85 | | | | |
| Tradd | | | 0.84 | | 0.85 | | |
| Birc7 | | | | -0.85 | | | |
| Il1a | | | | | -0.87 | | |
| Traf2 | | | | | 0.85 | | |
| Fasl | | | | | 0.83 | | |
| Ppp3r1 | | | | | 0.83 | | |
| 2010110P09Rik | | | | | -0.82 | | |
| Chuk | | | | | | | -0.8 |
| Csf2rb2 | | | | | | 0.85 | |
| Dffb | | | | | | 0.92 | |
| Ntrk1 | | | | | | 0.85 | |
| Trp53 | | | | | | 0.88 | |
| 1500003O03Rik | | | | | | | 0.92 |

| p53 Responsive Elements | | | | | | | |
|---|---|---|---|---|---|---|---|
| gene | 1h | 3h | 6h | 9h | 12h | 24h | 48h |
| Msh2 | -0.97 | | | | | | |
| Btg2 | 0.95 | | | | | | |
| Igfbp3 | -0.87 | -0.86 | | -0.8 | -0.86 | -0.86 | |
| Sesn1 | | -0.98 | | -0.87 | -1 | | |
| S100a2 | | 0.94 | | | | | |
| Pmaip1 | | 0.87 | 0.81 | | 0.97 | | |
| Fas | | -0.85 | | | | | |
| Mdm2 | | | 0.92 | 0.89 | 0.8 | 0.88 | |
| Cdkn1a | | | 0.91 | 0.86 | 0.95 | 0.94 | 0.85 |
| Gml | | | 0.91 | | | | |
| Tnfrsf10b | | | 0.9 | 0.89 | 0.86 | 0.89 | |
| Pcna | | | | 0.81 | 0.86 | | |
| Sfn | | | | | | 0.86 | |