| KEGG_ONE_CARBON_POOL_BY_FOLATE | KEGG_PURINE_METABOLISM | KEGG_PYRIMIDINE_METABOLISM |
|--------------------------------|------------------------|----------------------------|
| [http://www.gsea-msigdb.org/gsea/msigdb/cards/KEGG_ONE_CARBON_POOL_BY_FOLATE](http://www.gsea-msigdb.org/gsea/msigdb/cards/KEGG_ONE_CARBON_POOL_BY_FOLATE) | [http://www.gsea-msigdb.org/gsea/msigdb/cards/KEGG_PURINE_METABOLISM](http://www.gsea-msigdb.org/gsea/msigdb/cards/KEGG_PURINE_METABOLISM) | [http://www.gsea-msigdb.org/gsea/msigdb/cards/KEGG_PYRIMIDINE_METABOLISM](http://www.gsea-msigdb.org/gsea/msigdb/cards/KEGG_PYRIMIDINE_METABOLISM) |
| MTHFD2 | POLR2G | NT5C2 |
| GART  | NT5C2  | POLR2G |
| TYMS  | POLR2H | POLR2H |
| FTCD  | ENPP3  | POLR2E |
| ALDH1L1 | POLR2E | POLR2F |
| MTHFS | POLR2F | POLR2I |
| MTFMT | ENPP1  | POLR2J |
| AMT   | XDH    | POLE3  |
| MTHFD2L | POLR2I | TYMS  |
| DHFR  | POLR2J | TXNRD1 |
| SHMT1 | POLR2E | NME6   |
| MTHFD1L | ADSS2  | POLR1D |
| MTHFD1 | PRPS2  | PNPT1  |
| MTR   | ADSL   | POLR2K |
| ATIC  | NME6   | DHODH  |
| MTHFR | POLR1D | POLD3  |
| SHMT2 | PNPT1  | POLR2L |
|       | POLR2K | NME1-NME2 |
|       | PDE11A | POLA2  |
|       | POLD3  | UPRT   |
|       | POLR2L | CANT1  |
|       | AK1    | NME4   |
|       | NME1-NME2 | NME1 |
|       | AK2    | NME2   |
|       | AK4    | NME3   |
|       | POLA2  | POLR3C |
|       | CANT1  | POLR3G |
|       | AMPD1  | POLR3F |
|       | AMPD3  | NUDT2  |
|       | AMPD2  | PRIM1  |
|       | NME4   | PRIM2  |
|       | GUCY2D | NME5   |
|       | NME1   | POLD4  |
|       | ATIC   | DTYMK  |
|       | NME2   | CTPS1  |
|       | DGUOK  | POLA1  |
|       | POLR3C | ENTPD8 |
|       | NME3   | POLE2  |
|       | POLR3G | POLD1  |
|       | POLR3F | POLD2  |
|       | PRUNE1 | POLE   |
|       | ADPRM  | CAD    |
|       | PDE4B  | CMPK2  |
|       | PDE4C  | POLR1E |
| Gene   | Gene   |
|--------|--------|
| PDE3B  | NT5C1A |
| PDE4A  | POLR3A |
| NUDT2  | DCTD   |
| GMPR2  | POLR2B |
| PDE6C  | POLR2A |
| PDE6D  | DCK    |
| PDE4D  | POLR2D |
| PDE6A  | POLR2C |
| PRIM1  | UCK1   |
| PRIM2  | UPB1   |
| AK5    | TXNRD2 |
| GMPR   | CMPK1  |
| NME5   | POLR3K |
| PDE7B  | RRM2B  |
| PDE5A  | PNP    |
| POLD4  | POLR1B |
| GUCY1A2| UPP2   |
| FHT    | CTPS2  |
| ADCY3  | POLR2J2|
| ADCY2  | CDA    |
| ADCY1  | NT5M   |
| POLA1  | DUT    |
| PDE3A  | POLR3H |
| PDE2A  | UCKL1  |
| PDE1C  | POLR2J3|
| ADSS1  | POLR1A |
| ADA    | POLR3B |
| ENTPD8 | ENTPD4 |
| POLE2  | ITPA   |
| PDE8A  | POLR1C |
| PDE9A  | POLE4  |
| PDE1B  | RRM1   |
| NUDT9  | RRM2   |
| POLD1  | POLR3D |
| GDA    | NT5C3A |
| POLD2  | DPYS   |
| POLE   | DPYD   |
| PDE6B  | TYMP   |
| PDE7A  | UMPs   |
| PRPS1  | UCK2   |
| POLR1E | POLR3GL|
| PAICS  | TK1    |
| NT5C1A | NT5E   |
| POLR2B | TK2    |
| POLR3A | UPP1   |
| PDE6H  | ENTPD6 |
| POLR2A | ENTPD5 |
| PDE6G  | ENTPD3 |
| POLR2D | ENTPD1 |
| DCK    | NT5C1B |
| POLR2C | NT5C   |
| ADCY8 | NME7   |
|-------|--------|
| ADCY9 | AK3    |
| ADCY6 | ZNRD1  |
| AK7   |        |
| ADCY7 |        |
| ADCY5 |        |
| GMPS  |        |
| ADCY10|        |
| POLR3K|        |
| POLR1B|        |
| PNP   |        |
| RRM2B |        |
| PDE1A |        |
| POLR2J2|       |
| HPRT1 |        |
| GART  |        |
| PAPSS1|        |
| PAPSS2|        |
| NT5M  |        |
| ADCY4 |        |
| IMPDH1|        |
| IMPDH2|        |
| POLR3H|        |
| POLR2J3|       |
| POLR1A|        |
| POLR3B|        |
| GUCY1B1|        |
| PKLR  |        |
| GUCY2C|        |
| ENTPD4|        |
| PKM   |        |
| GUCY1A1|        |
| GUK1  |        |
| GUCY2F|        |
| ADK   |        |
| ITPA  |        |
| POLR1C|        |
| URAD  |        |
| POLE4 |        |
| RRM1  |        |
| POLR3D|        |
| RRM2  |        |
| NT5C3A|        |
| PDE8B |        |
| POLR3GL|       |
| NT5E  |        |
| NPR2  |        |
| NPR1  |        |
| PDE10A|        |
| ENTPD6|        |
| ENTPD2|        |
ENTPD5
ENTPD3
NUDT5
ENTPD1
PFAS
NT5C1B
APRT
PRPS1L1
PPAT
NME7
NT5C
ALLC
ZNRD1