

## Human MAP Kinase Signaling Pathway PCR Array

**MKKK:** ARAF, BRAF, DLK1, MAP3K1 (MEKK1), MAP3K2 (MEKK2), MAP3K3 (MEKK3), MAP3K4 (MEKK4), MAP4K1 (HPK1), MOS, MST1, PAK1, RAF1.

**MKK:** MAP2K1 (MEK1), MAP2K2 (MEK2), MAP2K3 (MEK3), MAP2K4 (Mkk4, JNKK1), MAP2K5 (MEK5), MAP2K6 (MKK6), MAP2K7 (JNKK2).

**MAPK:** MAPK1 (ERK2, MAPK1), MAPK3 (ERK1), MAPK6 (ERK3), MAPK7 (ERK7), MAPK8 (JNK1), MAPK9 (JNK2), MAPK10 (JNK3), MAPK11 (p38bMAPK), MAPK12 (p38gMAPK), MAPK13, MAPK14 (p38 MAPK).

**Activated Transcription Factors:** ATF2 (Creb-2), CREB1, CREBBP (CBP), EGFR, ELK1, ETS1, ETS2, JUN, MAPKAPK2, MAPKAPK3, MAX, MEF2C, MKNK1, MYC, NFATC4 (NFAT3), PRDX6 (AOP2), SMAD4 (MADH4/DPC4), TP53 (p53).

**Genes with Induced Expression:** COL1A1 (Collagen I), EGR1, FOS, HSPA5 (Grp78), HSPB1 (Hsp27), JUN, MYC, TP53.

**Raf Regulating Proteins:** HRAS, KRAS, KSR1, MAP2K1, MAP2K2, NRAS.

**MEKK1 Interacting Proteins:** CDC42, CHUK (IKK-a), GRB2, HRAS, KRAS, MAP2K1, MAP2K2, MAP2K4, MAP2K7, MAP4K1, MST1, NRAS, RAC1, SFN (14-3-3, Stratifin).

**Scaffolding / Anchoring:** LAMTOR3 (MP1), MAP3K1, MAPK8IP2 (JIP-1).

**Cell Cycle Proteins Regulated by Erk1/2 Pathway:** CCNA1 (CyclinA1), CCNA2 (CyclinA), CCNB1 (CyclinB1), CCNB2 (CyclinB2), CCND1 (CyclinD1), CCND2 (CyclinD2), CCND3 (CyclinD3), CCNE1 (CyclinE1), CDK2, CDK4, CDK6, CDKN1A (p21CIP1/WAF1), CDKN1B (p27kip1), CDKN1C (p57kip2), CDKN2A (Ind4a, p16ink4), CDKN2B (Ind4b, p15ink2b), CDKN2C (Ind4c, p18cdk4inhibitor), CDKN2D (Ind4d, p19ink4d), E2F1, RB1.