Human mTOR Signaling PCR Array
mTOR Complexes:
mTORC1: MLST8, MTOR, RPTOR.
mTORC2: MLST8, MAPKAP1 (SIN1), MTOR, RICTOR.
mTOR Upstream Regulators:
mTORC1 Positive Regulators: AKT1, AKT2, AKT3, HRAS, IGF1, IKBKB, INS, INSR, IRS1, MAPK1, MAPK3, PDPK1, PIK3C3, PIK3CA, PIK3CB, PIK3CD, PIK3CG, PLD1, PLD2, RHEB, RPS6KA1, RPS6KA2, RPS6KA5, RRAGA, RRAGB, RRAGC, RRAGD, TELO2.
mTORC2 Positive Regulators: AKT1, AKT2, AKT3, MAPK1, MAPK3, PDPK1, PIK3C3 (VPS34), PIK3CA, PIK3CB, PIK3CD, PIK3CG, RHEB, RPS6KA1, RPS6KA2, RPS6KA5.
mTORC1 Negative Regulators: AKT1S1 (PRAS40), CAB39, CAB39L, DDIT4, DDIT4L, DEPTOR, FKBP1A (FKBP12), FKBP8, IGFBP3, PRKAA1 (AMPK), PRKAA2, PRKAB1, PRKAB2, PRKAG1, PRKAG2, PRKAG3, PTEN, STK11 (LKB1), STRADB, TP53, TSC1, TSC2, YWHAQ (14-3-3θ).
mTORC2 Negative Regulators: CAB39, CAB39L, DDIT4 (REDD1), DDIT4L (REDD2), DEPTOR, PRKAA1 (AMPK), PRKAA2, PRKAB1, PRKAB2, PRKAG1, PRKAG2, PRKAG3, STK11 (LKB1), STRADB, TSC1, TSC2.
mTOR Downstream Effectors:
mTORC1 Positive Regulation: CHUK (IKKa), EIF4B, EIF4E, HIF1A, IKBKB, RPS6, RPS6KB1, RPS6KB2, TP53, VEGFA, VEGFB, VEGFC.
mTORC2 Positive Regulation: AKT1, CDC42, GSK3B, HSPA4, ILK, MYO1C, PRKCA, PRKCB, PRKCE, PRKCG, RHOA, RPS6KB1, SGK1.
mTORC1 Negative Regulation: EIF4EBP1, EIF4EBP2, PPP2CA, PPP2R2B, PPP2R4, TP53, ULK1, ULK2.
Cellular Processes:
Amino Acid Response: PIK3C3 (VPS34), RRAGA, RRAGB, RRAGC, RRAGD.
Angiogenesis: CHUK (IKKa), DDIT4 (REDD1), DDIT4L (REDD2), HIF1A, IKBKB, VEGFA, VEGFB, VEGFC.
Autophagy: PIK3C3 (VPS34), ULK1, ULK2.
Cytoskeletal Organization: CDC42, PRKCA, PRKCB, PRKCE, PRKCG, RHOA.
Growth Factor Response: HRAS, IGF1, IGFBP3, MAPK1, MAPK3, RPS6KA1, RPS6KA2, RPS6KA5.
Energy Stress: PRKAA1 (AMPK), PRKAA2, PRKAB1, PRKAB2, PRKAG1, PRKAG2, PRKAG3.

Insulin Signaling: AKT1, AKT2, AKT3, INS, INSR, IRS1, PDPK1, PIK3CA, PIK3CB, PIK3CD, PIK3CG, TP53.

Lipid Metabolism: PLD1, PLD2.

Translation: EIF4B, EIF4E, EIF4EBP1, EIF4EBP2, PPP2CA, PPP2R2B, PPP2R4, RPS6, RPS6KA1, RPS6KA2, RPS6KA5, RPS6KB1, RPS6KB2.