**پانل بیماری های میتوکندریایی**

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| **ردیف** | **نام بیماری** | **تعداد ژن** | **ژن های مورد بررسی** |
| 1 | Evaluation of mtDNA encoded genes | 37 | MT-ND4, MT-ATP6, MT-ATP8, MT-CO1, MT-CO2, MT-CO3, MT-CYB, MT-ND1, MT-ND2, MT-ND3, MT-ND4L, MT-ND5, MT-ND6, MT-RNR1, MT-RNR2, MT-TA, MT-TC, MT-TD, MT-TE, MT-TF, MT-TG, MT-TH, MT-TI, MT-TK, MT-TL1, MT-TL2, MT-TM, MT-TN, MT-TP, MT-TQ, MT-TR, MT-TS1, MT-TS2, MT-TT, MT-TV, MT-TW, MT-TY |
| 2 | Evaluation of nuclear encoded genes | 265 | AARS2, ABCB7, ACAD8, ACAD9, ACADM, ACADS, ACADSB, ACADVL, ACAT1, ACO2, ADCK3, ADCK4, AFG3L2, AGK, AIFM1, AK2, ALAS2, ALDH4A1, ALDH6A1, AMACR, AMT, APTX, ATL1, ATP5A1, ATP5E, ATPAF2, AUH, BCAT2, BCKDHA, BCKDHB, BCS1L, BOLA3, BTD, C10orf2, C12orf65, CEP89, CISD2, CLPP, COA5, COASY, COQ2, COQ6, COQ9, COX10, COX14, COX15, COX20, COX4I2, COX6B1, COX7B, CPS1, CPT1A, CPT2, CRAT, CYB5R3, CYC1, CYCS, CYP27A1, D2HGDH, DARS, DARS2, DBT, DDHD1, DECR1, DGUOK, DHODH, DIABLO, DLAT, DLD, DMGDH, DNA2, DNAJC19, DNM1L, EARS2, ELAC2, ERCC6, ETFA, ETFB, ETFDH, ETHE1, FARS2, FASTKD2, FBP1, FDX1L, FH, FOXRED1, FXN, GAMT, GARS, GATM, GCDH, GCK, GCSH, GDAP1, GFER, GFM1, GK, GLDC, GLRX5, GLUD1, HADH, HADHA, HADHB, HARS2, HCCS, HIBCH, HK1, HLCS, HMGCL, HMGCS2, HOGA1, HSD17B10, HSPD1, HTRA2, IBA57, IDH1, IDH2, IDH3B, ISCU, IVD, KARS, KIF1B, KIF5A, L2HGDH, LARS2, LIAS, LRPPRC, LYRM4, MAOA, MARS2, MCCC1, MCCC2, MCEE, MFN2, MGME1, MLYCD, MMAA, MMAB, MMADHC, MPC1, MPV17, MRPL3, MRPL44, MRPS16, MRPS22, MTFMT, MTO1, MTPAP, MUT, NAGS, NDUFA1, NDUFA10, NDUFA11, NDUFA12, NDUFA2, NDUFA9, NDUFAF1, NDUFAF2, NDUFAF3, NDUFAF4, NDUFAF5, NDUFAF6, NDUFB3, NDUFB9, NDUFS1, NDUFS2, NDUFS3, NDUFS4, NDUFS6, NDUFS7, NDUFS8, NDUFV1, NDUFV2, NFU1, NUBPL, OAT, OGDH, OPA1, OPA3, OTC, OXCT1, PANK2, PARK2, PARK7, PC, PCCA, PCCB, PCK2, PDHA1, PDHB, PDHX, PDK3, PDP1, PDSS1, PDSS2, PET100, PINK1, PNKD, PNPLA2, PNPT1, POLG, POLG2, PPOX, PUS1, RARS2, REEP1, RMND1, RMRP, RRM2B, SACS, SAMHD1, SARS2, SCO1, SCO2, SDHA, SDHAF1, SDHAF2, SDHB, SDHC, SDHD, SERAC1, SFXN4, SLC19A2, SLC19A3, SLC22A5, SLC25A1, SLC25A12, SLC25A13, SLC25A15, SLC25A19, SLC25A20, SLC25A22, SLC25A3, SLC25A38, SLC25A4, SLC33A1, SLC6A8, SPAST, SPG20, SPG7, STAR, SUCLA2, SUCLG1, SURF1, TACO1, TAZ, TIMM8A, TK2, TMEM126A, TMEM70, TPK1, TRMU, TSFM, TTC19, TUFM, TYMP, UNG, UQCRB, UQCRC2, UQCRQ, WFS1, WWOX, XPNPEP3, YARS2, YWHAE |
| 3 | Complete Panel- Mitochondriopathies | 302 | AARS2, ABCB7, ACAD8, ACAD9, ACADM, ACADS, ACADSB, ACADVL, ACAT1, ACO2, ADCK3, ADCK4, AFG3L2, AGK, AIFM1, AK2, ALAS2, ALDH4A1, ALDH6A1, AMACR, AMT, APTX, ATL1, ATP5A1, ATP5E, ATPAF2, AUH, BCAT2, BCKDHA, BCKDHB, BCS1L, BOLA3, BTD, C10orf2, C12orf65, CEP89, CISD2, CLPP, COA5, COASY, COQ2, COQ6, COQ9, COX10, COX14, COX15, COX20, COX4I2, COX6B1, COX7B, CPS1, CPT1A, CPT2, CRAT, CYB5R3, CYC1, CYCS, CYP27A1, D2HGDH, DARS, DARS2, DBT, DDHD1, DECR1, DGUOK, DHODH, DIABLO, DLAT, DLD, DMGDH, DNA2, DNAJC19, DNM1L, EARS2, ELAC2, ERCC6, ETFA, ETFB, ETFDH, ETHE1, FARS2, FASTKD2, FBP1, FDX1L, FH, FOXRED1, FXN, GAMT, GARS, GATM, GCDH, GCK, GCSH, GDAP1, GFER, GFM1, GK, GLDC, GLRX5, GLUD1, HADH, HADHA, HADHB, HARS2, HCCS, HIBCH, HK1, HLCS, HMGCL, HMGCS2, HOGA1, HSD17B10, HSPD1, HTRA2, IBA57, IDH1, IDH2, IDH3B, ISCU, IVD, KARS, KIF1B, KIF5A, L2HGDH, LARS2, LIAS, LRPPRC, LYRM4, MAOA, MARS2, MCCC1, MCCC2, MCEE, MFN2, MGME1, MLYCD, MMAA, MMAB, MMADHC, MPC1, MPV17, MRPL3, MRPL44, MRPS16, MRPS22, MT-ATP6, MT-ATP8, MT-CO1, MT-CO2, MT-CO3, MT-CYB, MTFMT, MT-ND1, MT-ND2, MT-ND3, MT-ND4, MT-ND4L, MT-ND5, MT-ND6, MTO1, MTPAP, MT-RNR1, MT-RNR2, MT-TA, MT-TC, MT-TD, MT-TE, MT-TF, MT-TG, MT-TH, MT-TI, MT-TK, MT-TL1, MT-TL2, MT-TM, MT-TN, MT-TP, MT-TQ, MT-TR, MT-TS1, MT-TS2, MT-TT, MT-TV, MT-TW, MT-TY, MUT, NAGS, NDUFA1, NDUFA10, NDUFA11, NDUFA12, NDUFA2, NDUFA9, NDUFAF1, NDUFAF2, NDUFAF3, NDUFAF4, NDUFAF5, NDUFAF6, NDUFB3, NDUFB9, NDUFS1, NDUFS2, NDUFS3, NDUFS4, NDUFS6, NDUFS7, NDUFS8, NDUFV1, NDUFV2, NFU1, NUBPL, OAT, OGDH, OPA1, OPA3, OTC, OXCT1, PANK2, PARK2, PARK7, PC, PCCA, PCCB, PCK2, PDHA1, PDHB, PDHX, PDK3, PDP1, PDSS1, PDSS2, PET100, PINK1, PNKD, PNPLA2, PNPT1, POLG, POLG2, PPOX, PUS1, RARS2, REEP1, RMND1, RMRP, RRM2B, SACS, SAMHD1, SARS2, SCO1, SCO2, SDHA, SDHAF1, SDHAF2, SDHB, SDHC, SDHD, SERAC1, SFXN4, SLC19A2, SLC19A3, SLC22A5, SLC25A1, SLC25A12, SLC25A13, SLC25A15, SLC25A19, SLC25A20, SLC25A22, SLC25A3, SLC25A38, SLC25A4, SLC33A1, SLC6A8, SPAST, SPG20, SPG7, STAR, SUCLA2, SUCLG1, SURF1, TACO1, TAZ, TIMM8A, TK2, TMEM126A, TMEM70, TPK1, TRMU, TSFM, TTC19, TUFM, TYMP, UNG, UQCRB, UQCRC2, UQCRQ, WFS1, WWOX, XPNPEP3, YARS2, YWHAE |