# OncoNext Liquid™ *Monitor & Scan*
# 23 γονίδια

**Γονίδια που αναλύονται και η συσχέτισή τους με διαφορετικούς τύπους καρκίνου.**

| Γονίδιο | Τύποι καρκίνου |
|---|---|
| AKT1 | Μαστού, Πνεύμονα, Ορθοκολικός* |
| ALK | Πνεύμονα, Νευροβλάστωμα, Ραβδομυοσάρκωμα |
| AR | Προστάτη |
| BRAF | Μελάνωμα*, Ορθοκολικός* Πνεύμονα, Ωοθηκών, Στομάχου, Γλίωμα, Θυροειδούς, Πάγκρεας, |
| CTNNB1 | Μελάνωμα |
| EGFR | Πνεύμονα*; Κεφαλής και τραχήλου, Προστάτη |
| ERBB2 | Μαστού, Πνεύμονα |
| ESR1 | Μαστού |
| FOXL2 | Ωοθηκών |
| GNA11 | Μελάνωμα |
| GNAQ | Μελάνωμα |
| KIT | Στομάχου, Μελάνωμα*, Θύμου αδένα |
| KRAS | Ορθοκολικός*, Στομάχου, Πνεύμονα*, Ωοθηκών, Θυροειδούς, Ενδομητρίου, Πάγκρεας, Προστάτη |
| MEK1 (MAP2K1) | Μελάνωμα, Πνεύμονα, Ωοθηκών, Ορθοκολικός, |
| MET | Πνεύμονα*, Ορθοκολικός, Στομάχου |
| NRAS | Ορθοκολικός*, Πνεύμονα, Μελάνωμα, Θυροειδούς |
| PDGFRA | Στομάχου, Μελάνωμα, |
| PIK3CA | Πνεύμονα, Μαστού, Προστάτη, Ορθοκολικός, Ωοθηκών, Κεφαλής και τραχήλου, Πάγκρεας, |
| PTEN | Μαστού, Πνεύμονα, |
| RET | Πνεύμονα*, Θυροειδούς |
| ROS1 | Πνεύμονα |
| SMAD4 | Ορθοκολικός |
| TP53 | Πνεύμονα, Μελάνωμα, Ωοθηκών, Ορθοκολικός, Μαστού; Ενδομητρίου, Κεφαλής και τραχήλου, Νεφρού, Πάγκρεας, Προστάτη, Θυροειδούς |

*Σύμφωνα με τις κατευθυντήριες οδηγίες της NCNN.

## Μεταλλάξεις που αναλύονται με το OncoNext™ *Liquid* *23 γονίδια*

| GENE | MUTATION Protein | MUTATION cDNA |
|---|---|---|
| **AKT1** | E17K | c.49 G>A |
| **ALK** | 1151Tins | |
| **ALK** | L1152R | c.3455T>G |
| **ALK** | D1091N | c.3271G>A |
| **ALK** | T1151M | c.3452C>T |
| **ALK** | C1156Y | c.3467G>A |
| **ALK** | I1171N | c.3512T>A |
| **ALK** | F1174I | c.3520T>A |
| **ALK** | F1174V | c.3520T>G |
| **ALK** | F1174C | c.3521T>G |
| **ALK** | F1174L | c.3522C>A |
| **ALK** | L1196M | c.3586C>A |
| **ALK** | L1198F | c.3592C>T |
| **ALK** | S1206Y | c.36+A4:C2317C>A |
| **ALK** | G1202R | c.3604G>A |
| **ALK** | D1225N | c.3673G>A |
| **ALK** | F1245V | c.3733T>G |
| **ALK** | F1245C | c.3734T>G |
| **ALK** | F1245L | c.3735C>G |
| **ALK** | G1269A | c.3806G>C |
| **ALK** | R1275Q | c.3824G>A |
| **ALK** | Y1278S | c.3833A>C |
| **AR** | L702H | c.2105T>A |
| **AR** | W742C | c.2226G>T |
| **AR** | H875Y | c.2623C>T |
| **AR** | F877L | c.2631C>A |
| **AR** | T878A | c.2632A>G |
| **BRAF** | G466V | c.1397G>T |
| **BRAF** | G469A | c.1406G>C |
| **BRAF** | G469E | c.1406G>A |
| **BRAF** | G469L | c.1405_1406delGGinsTT |
| **BRAF** | G469V | c.1406G>T |
| **BRAF** | Y472C | c.1415A>G |
| **BRAF** | D594E | c.1782T>A |
| **BRAF** | D594E | c.1782T>G |
| **BRAF** | D594G | c.1781A>G |
| **BRAF** | D594H | c.1780G>C |
| **BRAF** | D594N | c.1779_1780delTGinsGA |
| **BRAF** | D594N | c.1780G>A |
| **BRAF** | D594V | c.1781A>T |
| **BRAF** | G596R | c.1786G>C |
| **BRAF** | K601E | c.1801A>G |
| **BRAF** | L597Q | c.1790T>A |

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|---|---|---|
| **BRAF** | L597R | c.1790T>G |
| **BRAF** | L597S | c.1789_1790delCTinsTC |
| **BRAF** | L597V | c.1789C>G |
| **BRAF** | V600D | c.1799_1800delTGinsAT |
| **BRAF** | V600E | c.1799T>A |
| **BRAF** | V600E | c.1799_1800delTGinsAA |
| **BRAF** | V600G | c.1799T>G |
| **BRAF** | V600K | c.1798_1799delGTinsAA |
| **BRAF** | V600M | c.1798G>A |
| **BRAF** | V600R | c.1798_1799delGTinsAG |
| **CTNNB1** | S37F | c.110C>T |
| **CTNNB1** | S37Y | c.110C>A |
| **CTNNB1** | S45P | c.133T>C |
| **CTNNB1** | S45F | c.134C>T |
| **CTNNB1** | S45Y | c.134C>A |
| **EGFR** | Exon 19 Deletions | |
| **EGFR** | Exon 19 Insertions | |
| **EGFR** | Exon 20 Insertions | |
| **EGFR** | G719S | c.2155G>A |
| **EGFR** | G719C | c.2155G>T |
| **EGFR** | G719A | c.2156G>C |
| **EGFR** | K745_E749del | c.2233_2247del15) |
| **EGFR** | E746_A750>IP | c.2235_2248delGGAATTAAGAGAAGinsAATTC |
| **EGFR** | E746_A750del | c.2235_2249delGGAATTAAGAGAAGC |
| **EGFR** | E746_T751>IP | c.2235_2251delinsAATTC |
| **EGFR** | E746_T751>I | c.2235_2252delinsAAT |
| **EGFR** | E746_S752>I | c.2235_2255delinsAAT |
| **EGFR** | E746_A750del | c.2236_2250delGAATTAAGAGAAGCA |
| **EGFR** | E746_T751del | c.2236_2253del18 |
| **EGFR** | E746_T751>A | c.2237_2251del15 |
| **EGFR** | E746_T751>V | c.2237_2252delinsT |
| **EGFR** | E746_T751>VA | c.2237_2253delinsTTGCT |
| **EGFR** | E746_S752>A | c.2237_2254del18 |
| **EGFR** | E746_S752>V | c.2237_2255delinsT |
| **EGFR** | E746_P753>VS | c.2237_2257del21insTCT |
| **EGFR** | L747_A750>P | c.2238_2248delATTAAGAGAAGinsGC |
| **EGFR** | L747_T751del | c.2238_2252del |
| **EGFR** | L747_T751>Q | c.2238_2252delinsGCA |
| **EGFR** | E746_S752>D | c.2238_2255del18 |
| **EGFR** | L747_E749del | c.2239_2247delTTAAGAGAA |
| **EGFR** | L747_A750>P | c.2239_2248delTTAAGAGAAGinsC |
| **EGFR** | L747_S752del | c.2239_2256del18 |
| **EGFR** | L747_S752>Q | c.2239_2256delinsCAA |

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|---|---|---|
| **EGFR** | L747_P753>Q | c.2239_2258delinsCA |
| **EGFR** | L747_T751>S | c.2240_2251del |
| **EGFR** | A763_Y764insFQEA | c.2290_2291ins |
| **EGFR** | S768I | c.2303G>T |
| **EGFR** | T790M | c.2369C>T |
| **EGFR** | L858R | c.2573T>G |
| **EGFR** | L861Q | c.2582T>A |
| **ERBB2(HER2)** | Exon 20 Insertions | |
| **ERBB2(HER2)** | | c.2263_2264delTTinsCC |
| **ERBB2(HER2)** | L755_T759del | c.2264_2278del |
| **ERBB2(HER2)** | p.L755S | c.2264T>C |
| **ERBB2(HER2)** | D769H | c.2305G>C |
| **ERBB2(HER2)** | D769Y | c.2305G>T |
| **ERBB2(HER2)** | | c.2322_2334dupATACGTGATGGC |
| **ERBB2(HER2)** | G776S | c.2326 G>A |
| **ERBB2(HER2)** | | c.2328_2336dupTGTGGGCTC |
| **ERBB2(HER2)** | V777L | c.2329G>T |
| **ERBB2(HER2)** | G778_P780dup | c.2339_2340ins |
| **ERBB2(HER2)** | V842I | c.2524G>A |
| **ERBB2(HER2)** | R896C | c.2686C>T |
| **ERBB2(HER2)** | G309A | c.926G>C |
| **ESR1** | S463P | c.1387T>C |
| **ESR1** | V534E | c.1601T>A |
| **ESR1** | P535H | c.? |
| **ESR1** | L536Q | c.1607_1608TC>AG |
| **ESR1** | L536R | c.1607T>G |
| **ESR1** | Y537N | c.1609T>A |
| **ESR1** | Y537S | c.1610A>C |
| **ESR1** | Y537C | c.1610A>G |
| **ESR1** | D538G | c.1613A>G |
| **FOXL2** | C134W | c.402 C>G |
| **GNA11** | R183C | c.546_547delCCinsTT |
| **GNA11** | R183C | c.547C>T |
| **GNA11** | Q209L | c.626A>T |
| **GNA11** | Q209P | c.626A>C |
| **GNAQ** | R183Q | c.548G>A |
| **GNAQ** | Q209L | c.626A>T |
| **GNAQ** | Q209P | c.626A>C |
| **GNAQ** | Q209R | c.626A>G |
| **KIT** | Del 554–558 | |
| **KIT** | Del 554–559 | |
| **KIT** | Del 566–572 | |
| **KIT** | Del 566–574 | |
| **KIT** | Del 579 | |
| **KIT** | Del V559 | |
| **KIT** | Exon 9 Mutations | |

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|---|---|---|
| **KIT** | Exon 11 Mutations | |
| **KIT** | Exon 13 Mutations | |
| **KIT** | Exon 14 Mutations | |
| **KIT** | Exon 17 Mutations | |
| **KIT** | Other KIT mutations | |
| **KIT** | E490K | c.1468G>A |
| **KIT** | A502–Y503insFA | c.1507_1508insTTGCCT |
| **KIT** | F504L | c.1510T>C |
| **KIT** | K550N | c.1650A>C |
| **KIT** | Y553N | c.1657T>A |
| **KIT** | 556 ins L | |
| **KIT** | W557R | c.1669T>A |
| **KIT** | W557R | c.1669T>C |
| **KIT** | K558N | c.1674G>C |
| **KIT** | V559D | c.1676T>A |
| **KIT** | V559A | c.1676T>C |
| **KIT** | V559G | c.1676T>G |
| **KIT** | V560del | c.1679_1681del |
| **KIT** | V560A | c.1679T>C |
| **KIT** | V560G | c.1679T>G |
| **KIT** | G565V | c.1694G>T |
| **KIT** | N566D | c.1696A>G |
| **KIT** | V569G | c.1706T>G |
| **KIT** | 575 ins PE | |
| **KIT** | L576P | c.1727T>C |
| **KIT** | V560D | c.1727T>C (V560D) |
| **KIT** | P577_D579del | c.1730_1738del |
| **KIT** | E583_E589dupPYDHKWE | |
| **KIT** | R634W | c.1900C>T |
| **KIT** | K642E | c.1924A>G |
| **KIT** | V654A | c.1961T>C |
| **KIT** | N655K | c.1965T>A,c.1965T>G |
| **KIT** | N655S | |
| **KIT** | H697Y | c.2089C>T |
| **KIT** | D816H | c.2446G>C |
| **KIT** | D816V | c.2447A>T |
| **KIT** | D820Y | c.2458G>T |
| **KIT** | D820V | c.2459A>T |
| **KIT** | D820E | c.2460T>A |
| **KIT** | N822Y | c.2464A>T |
| **KIT** | N822I | c.2465A>T |
| **KIT** | N822K | c.2466T>G, c.2466T>A |
| **KIT** | Y823D | c.2467T>G |
| **KIT** | A829P | c.2485G>C |
| **KIT** | I841V | |
| **KIT** | S864F | c.2591C>T |
| **KRAS** | G12S | c.34G>A |

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|---|---|---|
| **KRAS** | G12R | c.34G>C |
| **KRAS** | G12C | c.34G>T |
| **KRAS** | K117N | c.351A>C |
| **KRAS** | K117N | c.351A>T |
| **KRAS** | G12D | c.35G>A |
| **KRAS** | G12A | c.35G>C |
| **KRAS** | G12V | c.35G>T |
| **KRAS** | G13S | c.37G>A |
| **KRAS** | G13R | c.37G>C |
| **KRAS** | G13C | c.37G>T |
| **KRAS** | G13D | c.38G>A |
| **KRAS** | G13A | c.38G>C |
| **KRAS** | G13V | c.38G>T |
| **KRAS** | Q22K | c.64C>A |
| **KRAS** | Q61K | c.181C>A |
| **KRAS** | Q61P | c.182A>C |
| **KRAS** | Q61R | c.182A>G |
| **KRAS** | Q61L | c.182A>T |
| **KRAS** | Q61H | c.183A>C |
| **KRAS** | Q61H | c.183A>C |
| **KRAS** | Q61H | c.183A>T |
| **KRAS** | A146T | c.436G>A |
| **KRAS** | A146P | c.436G>C |
| **KRAS** | A146V | c.437C>T |
| **MEK1 (MAP2K1)** | F53L | c.157T>C |
| **MEK1 (MAP2K1)** | Q56P | c.167A>C |
| **MEK1 (MAP2K1)** | K57N | c.171G>T |
| **MEK1 (MAP2K1)** | D67N | c.199G>A |
| **MEK1 (MAP2K1)** | I111S | c.332T>G |
| **MEK1 (MAP2K1)** | C121S | c.362G>C |
| **MEK1 (MAP2K1)** | P124S | c.370C>T |
| **MEK1 (MAP2K1)** | P124L | c.371C>T |
| **MEK1 (MAP2K1)** | E203K | c.607G>A |
| **MEK1 (MAP2K1)** | P264S | c.790C>T |
| **MEK1 (MAP2K1)** | N382H | c.1144A>C |
| **MET** | | c.2887-18_2887-7del12 |
| **MET** | | c.2888-6_29del |
| **MET** | | c.2888delA |
| **MET** | | c.3001_3021delGTAGACTACCGAGC TACTTTT |
| **MET** | | c.3024_3028+7delAGAAGGTATATT |
| **MET** | | c.3028+1G>T |
| **MET** | | c.3028G>A |
| **MET** | | c.3028G>C |
| **MET** | | c.3028G>T |
| **MET** | V1206L | c.3616 G>T |

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|---|---|---|
| **MET** | L1213V | c.3637 C>G |
| **NRAS** | G12S | c.34G>A |
| **NRAS** | G12R | c.34G>C |
| **NRAS** | G12C | c.34G>T |
| **NRAS** | G12D | c.35G>A |
| **NRAS** | G12A | c.35G>C |
| **NRAS** | G12V | c.35G>T |
| **NRAS** | G13R | c.37G>C |
| **NRAS** | G13C | c.37G>T |
| **NRAS** | G13D | c.38G>A |
| **NRAS** | G13A | c.38G>C |
| **NRAS** | G13V | c.38G>T |
| **NRAS** | Q61K | c.181C>A |
| **NRAS** | Q61E | c.181C>G |
| **NRAS** | Q61R | c.182_183delAAinsGG |
| **NRAS** | Q61L | c.182_183delAAinsTG |
| **NRAS** | Q61P | c.182A>C |
| **NRAS** | Q61R | c.182A>G |
| **NRAS** | Q61L | c.182A>T |
| **NRAS** | Q61H | c.183A>C |
| **NRAS** | Q61H | c.183A>T |
| **NRAS** | Q61H | c.183A>T |
| **PDGFRA** | Exon 12 Mutations | |
| **PDGFRA** | Exon 14 Mutations | |
| **PDGFRA** | Exon 18 Mutations | |
| **PDGFRA** | Y555C | c.1664 A>G |
| **PDGFRA** | | c.1679_1693delGGGTCATTGAATCAA |
| **PDGFRA** | | c.1681_1682insAGAGGG |
| **PDGFRA** | V561D | c.1682 T>A |
| **PDGFRA** | | c.1696_1713del18 |
| **PDGFRA** | D842V | c.2525 A>T |
| **PDGFRA** | | c.2526_2537delCATCATGCATGA |
| **PDGFRA** | | c.2533_2544delCATGATTCGAAC |
| **PDGFRA** | D846Y | c.2536 G>T |
| **PIK3CA** | E542K | c.1624G>A |
| **PIK3CA** | E545K | c.1633G>A |
| **PIK3CA** | E545Q | c.1633G>C |
| **PIK3CA** | E545G | c.1634A>G |
| **PIK3CA** | E545V | c.1634A>T |
| **PIK3CA** | Q546K | c.1636C>A |
| **PIK3CA** | Q546E | c.1636C>G |
| **PIK3CA** | Q546P | c.1637A>C |
| **PIK3CA** | Q546R | c.1637A>G |
| **PIK3CA** | Q546L | c.1637A>T |
| **PIK3CA** | D549N | c.1645G>A |
| **PIK3CA** | M1043I | c.3129G>A |

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|---|---|---|
| **PIK3CA** | H1047Y | c.3139C>T |
| **PIK3CA** | H1047R | c.3140A>G |
| **PIK3CA** | H1047L | c.3140A>T |
| **PTEN** | R130G | c.388C>G |
| **PTEN** | R130* | c.388C>T |
| **PTEN** | R130fs*4 | c.389delG |
| **PTEN** | R130Q | c.389G>A |
| **PTEN** | R159S | c.477G>T |
| **PTEN** | R233* | c.697C>T |
| **PTEN** | P248fs*5 | c.741dupA |
| **PTEN** | K267fs*9 | c.800delA |
| **PTEN** | N323fs*21 | c.968delA |
| **PTEN** | N323fs*2 | c.968supA |
| **RET** | C634 Mutations | c.1900T>C c.1901G>A c.1902C>G c.1900T>A c.1901G>T |
| **RET** | M918T | c.2753T>C |
| **ROS1** | G2032R | |
| **ROS1** | D2033N | |
| **ROS1** | L2155S | |
| **SMAD4** | E330A | c.989A>C |
| **SMAD4** | D351N | c.1051G>A |
| **SMAD4** | D351H | c.1051G>C |
| **SMAD4** | D355E | c.1065C>A |
| **SMAD4** | R361S | c.1081C>A |
| **SMAD4** | R361C | c.1081C>T |
| **SMAD4** | R361H | c.1082G>A |
| **SMAD4** | D537Y | c.1609G>T |
| **TP53** | Whole coding region | |