

CERTIFICATE OF ANALYSIS

**For Research Use Only
Not for Use in Diagnostic Procedures**

Product Description: Seraseq™ Tumor Mutation DNA Mix v2 AF10, RUO
 Material No: 0710-0094 Batch No: 10219421
 Volume: 25 µL Concentration: 25 ng/µL
 Date of Manufacture: 07Jul2016 Expiration Date: 07Jul2019
 Test Method: In house validated, allele specific, digital PCR assays

Mutation	Average dPCR Allele Frequency
AKT1 COSM33765	10.10
APC COSM13127	9.60
APC COSM18561	9.33
ATM COSM21924	10.67
BRAF COSM476	10.07
CTNNB COSM5664	8.60
EGFR COSM6224	9.70
EGFR COSM6225	9.27
EGFR COSM6240	9.83
EGFR COSM12378	9.83
ERBB2 COSM682	9.10
FGFR3 COSM715	10.40
FLT3 COSM783	10.00
FOXL2 COSM33661	10.03
GNA11 COSM52969	9.77
GNAQ COSM28758	9.53
GNAS COSM27887	9.43
IDH1 COSM28747	9.70
JAK2 COSM12600	9.47
KIT COSM1314	9.27

Mutation	Average dPCR Allele Frequency
KRAS COSM521	9.87
MPL COSM18918	10.30
NPM1 COSM17559	9.40
NRAS COSM584	10.00
PDGFRA COSM736	9.73
PDGFRA COSM28053	10.60
PIK3CA COSM763	9.13
PIK3CA COSM775	9.57
PIK3CA COSM12464	9.47
PTEN COSM4986	9.17
PTEN COSM5809	9.17
RET COSM965	9.97
SMAD4 COSM14105	9.63
TP53 COSM6530	8.47
TP53 COSM10660	9.60
TP53 COSM10662	9.07
TP53 COSM10648	8.79
TP53 COSM18610	Not Assayed
NCOA4-RET	9.47
TPR-ALK	8.73

Approval:

Prepared By: [Signature] Date: 08/21/2018
 QA Verified By: [Signature] Date: 8/21/18