



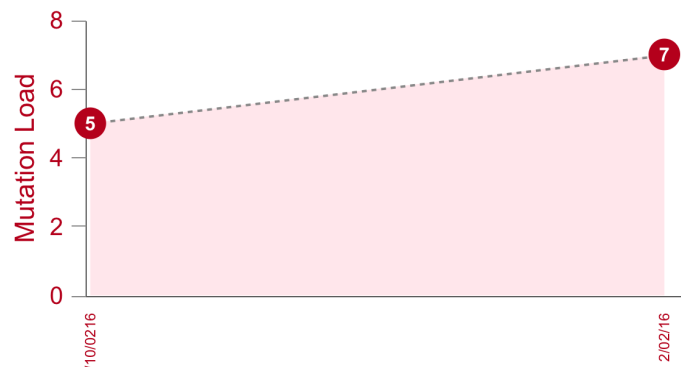
PATIENT: **Red, Ruby** GENDER: **F** AGE: **71** DOB: **11/23/1945**
 CLIENT NAME: **US Health Center** CLIENT NUMBER: **90210**
 PHYSICIAN: **Livingston, Doc** SAMPLE ID: **1216**
 SAMPLE TYPE: **Blood** COLLECTION DATE: **02/02/16** DATE RECEIVED: **02/03/2016** REPORT DATE: **10/30/2017**
 INDICATION: **Lung Cancer**

PERSONALIZED GENE PROFILE

SUMMARY OF RESULTS

Gene(s) Tested:	50
Alteration(s) Detected:	7
FDA-Approved Targeted Therapies:	1
Additional Therapies: see pg 4	1
Open Clinical Trials: see pg 10	39

MUTATIONAL TRENDING (for detailed Test History, see pg 5)



These mutations, relevant in Lung Cancer, were tested for and determined to be **absent**:

- EGFR exon 18, G719X mutation (Not Found)**
- EGFR exon 20, T790M mutation (Not Found)**
- EGFR exon 21, L858R mutation (Not Found)**
- EGFR exon 21, L861Q mutation (Not Found)**
- EGFR exon 19 deletion/insertion (Not Found)**
- EGFR exon 20 insertion (Not Found)**

The following 50 genes were tested:

- ABL1, AKT1, ALK, APC, ATM, BRAF, CDH1, CDKN2A, CSF1R, CTNNB1, EGFR, ERBB2, ERBB4, EZH2, FBXW7, FGFR1, FGFR2, FGFR3, FLT3, GNA11, GNAQ, GNAS, HNF1A, HRAS, IDH1, IDH2, JAK2, JAK3, KDR, KIT, KRAS, MET, MLH1, MPL, NOTCH1, NPM1, NRAS, PDGFRA, PIK3CA, PTEN, PTPN11, RB1, RET, SMAD4, SMARCB1, SMO, SRC, STK11, TP53, VHL

IMMUNOTHERAPY TEST RESULTS

FDA GUIDANCE

PD-L1 EXPRESSION	Positive	Pembrolizumab, Nivolumab indicated
MSI-H	Detected	Pembrolizumab, Nivolumab indicated

RNA TEST RESULTS

FDA GUIDANCE

ALK GENE FUSION	Not detected	Crizotinib, Ceritinib, Brigatinib not indicated
ROS1 GENE FUSION	Not detected	Crizotinib, not indicated

ALTERATIONS DETECTED

GENE	ALTERATION	MUTANT FRACTION	FDA TARGETED THERAPIES (lung cancer)	FDA TARGETED THERAPIES (for other indications)	CLINICAL TRIALS (DETAILS BELOW)
BRAF	No Reported Mutation		Dabrafenib not indicated	Melanoma (BRAF Wild Type): Nivolumab & Pembrolizumab Indicated; Dabrafenib, Trametinib, Vemurafenib & Cobimetinib NOT indicated	18
CTNNB1	p.T40A; c.118A>G	3.9%	None		
CTNNB1 DESCRIPTION					
The protein encoded by this gene is part of a complex of proteins that constitute adherens junctions (AJs). AJs are necessary for the creation and maintenance of epithelial cell layers by regulating cell growth and adhesion between cells. The encoded protein also anchors the actin cytoskeleton and may be responsible for transmitting the contact inhibition signal that causes cells to stop dividing once the epithelial sheet is complete. Finally, this protein binds to the product of the APC gene, which is mutated in adenomatous polyposis of the colon. Mutations in this gene are a cause of colorectal cancer (CRC), pilomatixoma (PTR), medulloblastoma (MDB), and ovarian cancer. Alternative splicing results in multiple transcript variants. [provided by RefSeq, Aug 2016]					
ERBB4	p.T265A; c.793A>G	5.8%	None		
ERBB4 DESCRIPTION					
This gene is a member of the Tyr protein kinase family and the epidermal growth factor receptor subfamily. It encodes a single-pass type I membrane protein with multiple cysteine rich domains, a transmembrane domain, a tyrosine kinase domain, a phosphatidylinositol-3 kinase binding site and a PDZ domain binding motif. The protein binds to and is activated by neuregulins and other factors and induces a variety of cellular responses including mitogenesis and differentiation. Multiple proteolytic events allow for the release of a cytoplasmic fragment and an extracellular fragment. Mutations in this gene have been associated with cancer. Alternatively spliced variants which encode different protein isoforms have been described; however, not all variants have been fully characterized. [provided by RefSeq, Jul 2008]					