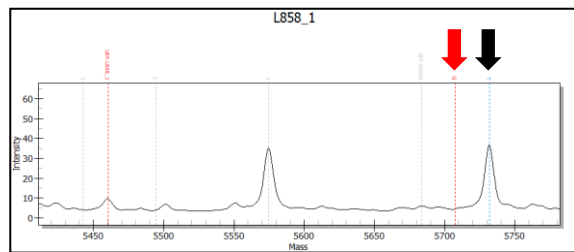
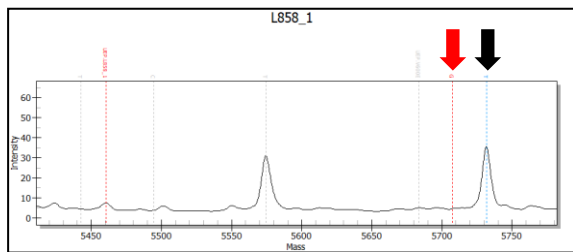
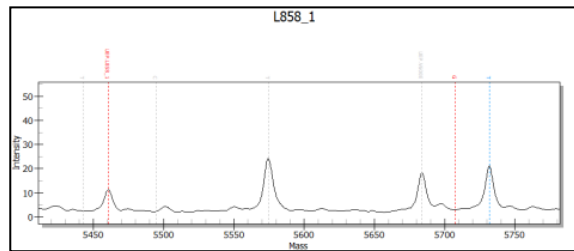
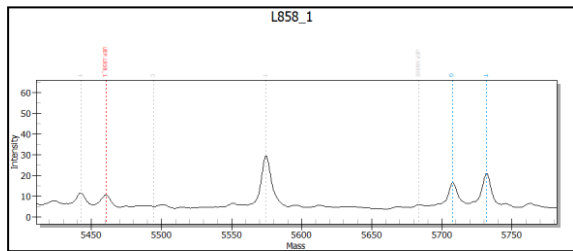


**(A)**

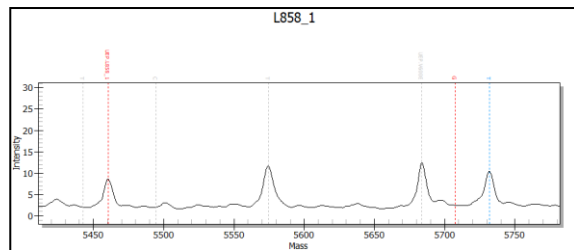
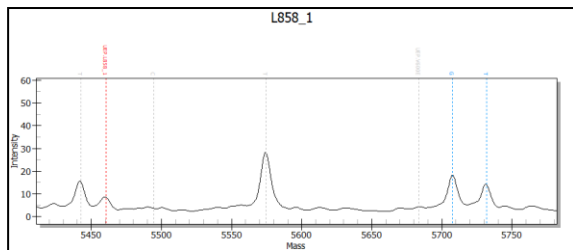


**OF:MSP:OR  
(ratio)**

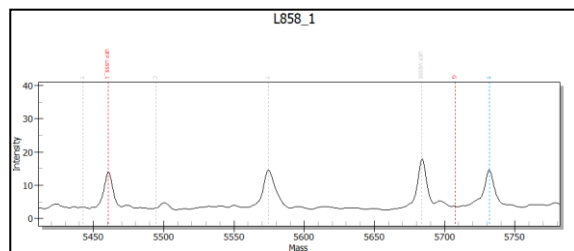
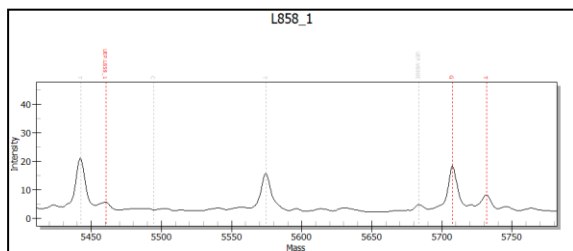
**1 : 1 : 1**



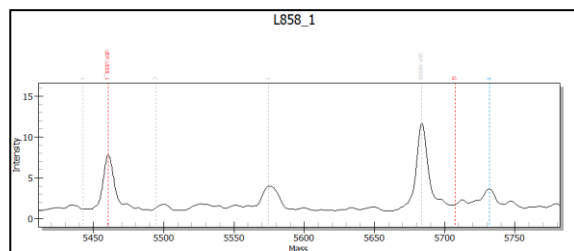
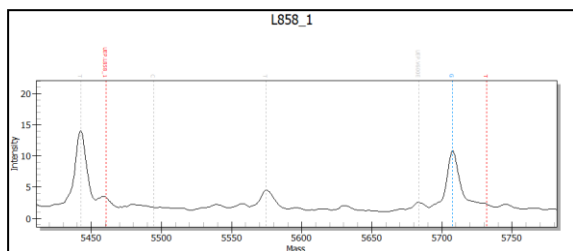
**0.5 : 1 : 1**



**0.35 : 1 : 1**



**0.2 : 1 : 1**

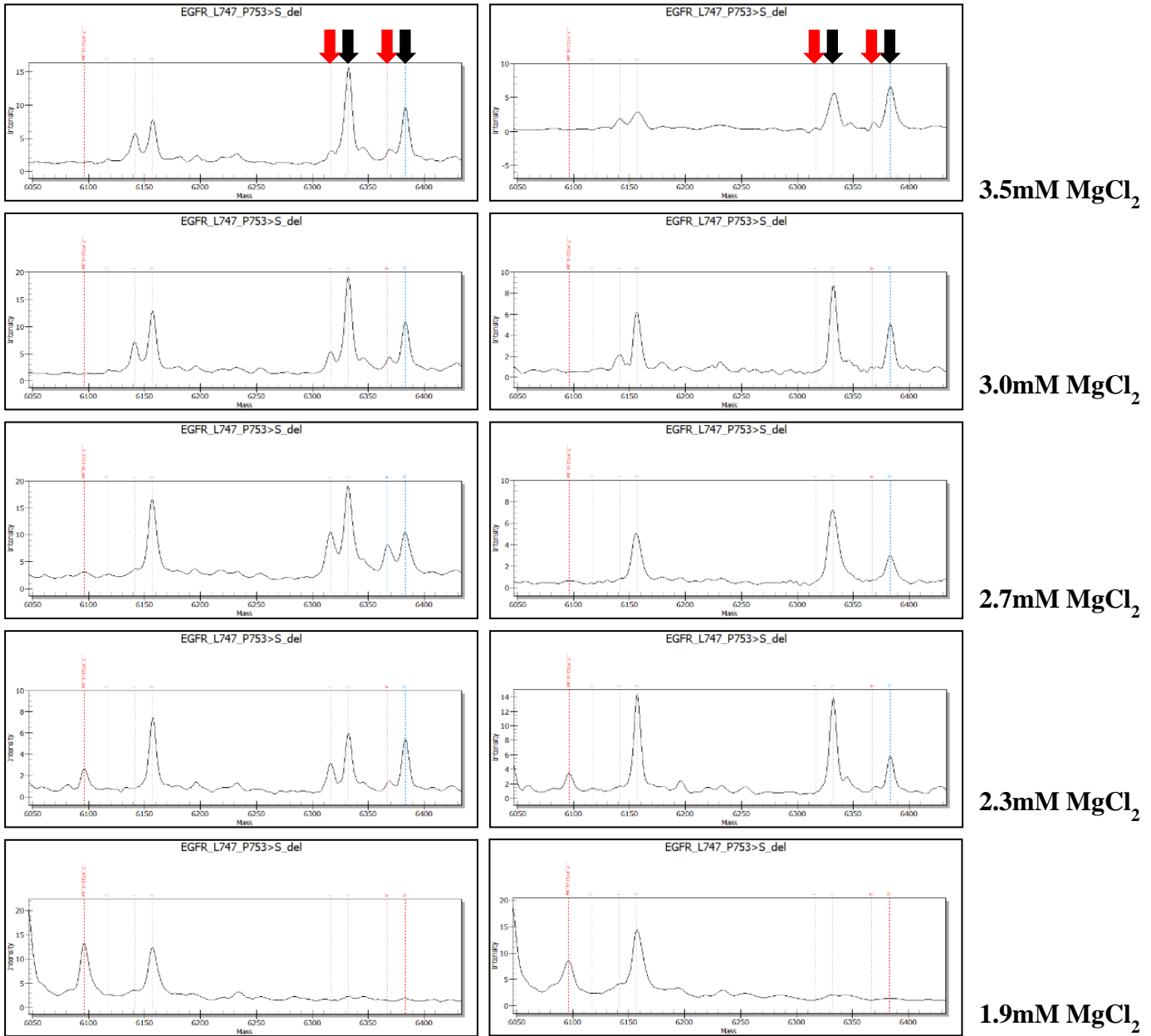


**0.1 : 1 : 1**

**H1975 cell (0.5%)**

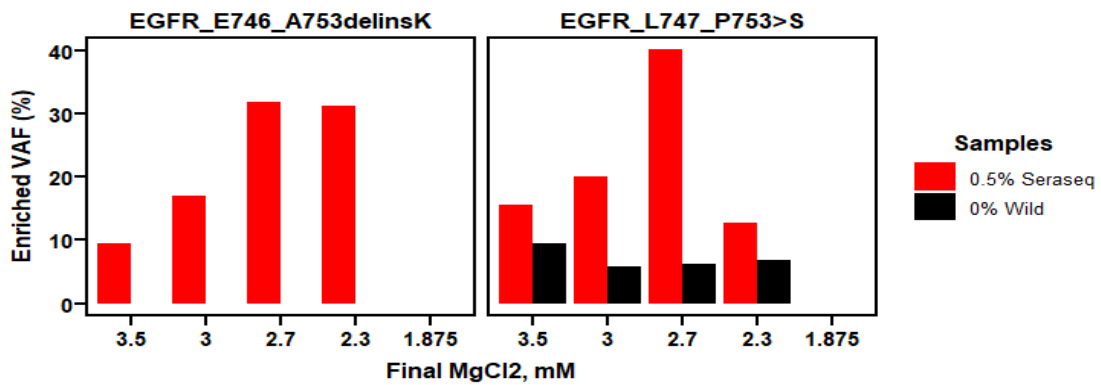
**Wild**

(B)



Seraseq reference (0.5%)

Wild only



**S2 Fig.** Optimization of ultra-high-sensitivity lung version 1 (ULV1) panel. (A) Optimization of polymerase chain reaction (PCR) conditions depending on unbalanced primer concentration. L858R assay gradually showed a strong mutant signal (red arrow) with decreased concentration of outer primer in the same direction as L858R mutation-specific primer. Black arrow indicates the intensity of wild signal. OF, outer forward primer; OR, outer reverse primer. (B) Optimization of PCR conditions with different MgCl<sub>2</sub> concentrations using 0.5% Seraseq reference. All exon 19 assays in Pool 1 showed highest mutant signal at 2.7 mM MgCl<sub>2</sub> (red arrow, upper). Bar plot shows enriched variant allelic frequencies for each concentration (bottom).