**Supplementary Table 5. The Amino Acid Substitutions and RAS analysis in the SH-ZSH01**

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| --- | --- | --- | --- |
|  | Amino Acid Substitutions in the SH-ZSH01\* | Reported RAS | |
| Reported RAS site within NS3, NS5A and NS5B in HCV genotype 2a [20] | SH-ZSH01  RAS within NS3, NS5A and NS5B |
| NS3 | T16A, T47S, V51I, V153I, S160A | L36, 54, Y56, G80, K122, L132, D168, I170, T174 | - |
| NS5A | **F28S, L31M#,** I83T, Q97S, I108T, S126P, H128S, I164T, T200M | T24, **F28**, K30, M31, S38, P58, N62, C92, Y93 | F28S |
| NS5B | A59V, V67T, T79S, T130S, T150I, P246S, H250R, F267L, **T273A**, **M289L**, A156P, I178V, R379G, **A421V**, S487A, V520I, L544H, I309V, I363V | E237, **E273**, S282, **M289**, C316, E330, I 392, Q414, I 419, **A421**, N444, F445, E446,V451, L482, A486, A494, P495, A 499, G556 | T273A, M289L, A421V |

Notes: \*Amino acid substitutions of SH-ZSH01 compare to genotype 2a HCV reference line HC-J6 (D00944). #The NS5A L31M mutation confers resistance to Velpatasvir in GT1a and 1b, whereas wild-type GT2a constitutionally contains NS5A 31M. Bold font indicates the amino acid substitutions in the SH-ZSH01 virus strain that had been reported to be resistance-associated substitutions.