**Table ST4**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **center nucleotides****(ACAC)** | **terminal nucleotides****(ACAC)** | **center nucleotides****(AUAU)** | **terminal nucleotides****(AUAU)** |
| **bRNaseA** | His119 (-10.2, A; -4.0, C)Thr45 (-4.4, C)Phe120 (-4.2, C)Lys66 (-4.1, C)Val43 (-4.0, C)Lys7 (-3.9, A)Asn44 (-3.1, C) | Pro42 (-3.3, A) | His119 (-11.1, A; -4.0, U)Phe120 (-5.2, U)Lys66 (-4.5, U)Val43 (-3.8, U)Thr45 (-3.3, U)Asn71 (-3.1, A) |  |
| **hRNase1** | His119 (-11.5, A; -4.2, C)Lys66 (-5.1, C)Thr45 (-4.5, C)Phe120 (-4.4, C)Val43 (-4.4, C)Arg4 (-4.3, A) | Pro42 (-4.4, A)Val43 (-3.3, A) | His119 (-11.6, A;-3.5, U)Lys66 (-5.3, U)Val43 (-4.0, U)Phe120 (-3.9, U)Lys41 (-3.4, U)Thr45 (-3.4, U)Arg4 (-3.4, A)Asn71 (-3.1, A) | Pro42 (-4.5, A)Lys7 (-3.1, U)Val43 (-3.1, A) |
| **hRNase2** | His130 (-8.3, A; -5.7, C)Lys39 (-6.1, C; -4.1, A)Met1 (-3.3, A)Gln41 (-3.1, C) | Asn40 (-3.02, C) | His130 (-11.9, A)Lys39 (-5.5, U; -4.4, A)Arg133 (-4.8, U)Gln41 (-4.4, U) | Arg69 (-4.1, U)Arg133 (-4.4, A)Gln41 (-3.2, A) |
| **hRNase3** | His129 (-9.8, A)Arg35 (-6.6, C)Arg8 (-5.4, A)Lys39 (-4.8, C)Met1 (-4.4, A; -4.1, C)Arg2 (-4.0, A) | Met1 (-4.78, C) | His129 (-9.3, A; -3.7, U)Lys39 (-4.9, U; -3.6, A)Met1 (-3.9, U; -3.3, A) | Arg2 (-4.4, U)Arg35 (-3.5, U) |
| **hRNase4** | His117 (-10.0, A; -4.9, C)Lys41 (-6.2; C;-3.5, A)Phe118 (-5.7, C)Arg8 (-5.6, A)Thr45 (-3.2, C)Lys66 (-3.2, C) | Phe43 (-6.8, A)Arg8 (-4.4, C) | His117 (-11.8, A; -4.4, U)Phe118 (-6.5, U)Arg8 (-4.3, A)Lys41 (-4.2, U; -3.7, A)Phe43 (-4.2, U)Thr45 (-3.5, U) | Phe43 (-5.9, A)Arg8 (-3.9, U) |
| **hRNase5** | His114 (-7.0, A; -4.2, C)Lys40 (-6.6, C)Thr44 (-4.3, C)Ile42 (-4.0, C)Leu115 (-3.6, C)Phe120 (-3.8, C)Asn43 (-3.5, C) | Arg5 (-4.5, C) | Gln117 (-6.8, U)His114 (-6.7, A; -6.5, U)Arg5 (-4.8, A)Leu115 (-4.2, U)Lys40 (-3.6, U)His13 (-3.5, U)Asn43 (-3.2, U) | Arg121 (-3.1, A) |
| **hRNase6** | His123 (-9.2, A; -4.5, C)Lys39 (-6.6, C)Lys8 (-6.6, A)Leu124 (-4.5, C)Trp11 (-4.1, A)Thr43 (-3.8, C)Asn69 (-3.6, A)Arg67 (-3.4, A)Gln15 (-3.3, C)Asn65 (-3.1, A) | Arg5 (-6.4, C)Gln41 (-3.5, A)Lys8 (-3.4, C) | His123 (-10.9, A; -5.3, U)Leu124 (-5.3, U)Lys8 (-4.1, A)Lys64 (-4.0, U)Asn69 (-3.7, A)Asn65 (-3.4, A)Arg67 (-3.4, A)Thr43 (-3.0, U) | Gln41 (-3.9, A) |
| **hRNase7** | His124 (-9.2, A; -4.0, C)Lys39 (-5.5, C)Thr43 (-4.4, C)Leu125 (-4.2, C)Leu41 (-3.5, C)Asn42 (-3.2, C) | Met1 (-4.6, C)Leu41 (-4.7, A)Arg37 (-3.6, C)Lys2 (-3.9, C) | His124 (-7.3, A; -3.8, U)Met1 (-4.7, A)Lys64 (-3.9, U)Lys39 (-3.7, U)Leu125 (-3.2, U) | Trp11 (-4.0,U)Met1 (-4.0, U)Leu41 (-3.5, A) |