

Supplemental Table S1: Clinical Characteristic of patients

| DIAGNOSIS | STAGE | ISS | GENDER | AGE | LIGHT CHAINS | OSTEOLYSIS | HBD/LBD |
|-----------|-------|-----|--------|-----|--------------|------------|---------|
| HD-1 | | | F | 34 | - | - | - |
| HD-2 | | | M | 68 | - | - | - |
| HD-3 | | | M | 66 | - | - | - |
| HD-4 | | | F | 66 | - | - | - |
| HD-5 | | | M | 64 | - | - | - |
| HD-6 | | | M | 64 | - | - | - |
| HD-7 | | | M | 74 | - | - | - |
| HD-8 | | | M | 74 | - | - | - |
| HD-9 | | | M | 69 | - | - | - |
| HD-10 | | | M | 54 | - | - | - |
| | | | | | | | |
| MGUS-1 | | | M | 72 | k | - | - |
| MGUS-2 | | | F | 43 | l | - | - |
| MGUS-3 | | | M | 42 | k | - | - |
| MGUS-4 | | | M | 66 | l | - | - |
| MGUS-5 | | | M | 78 | k | - | - |
| MGUS-6 | | | F | 54 | l | - | - |
| MGUS-7 | | | M | 77 | k | - | - |
| MGUS-8 | | | M | 43 | k | - | - |
| MGUS-9 | | | F | 72 | k | - | - |
| MGUS-10 | | | M | 46 | l | - | - |
| MGUS-11 | | | M | 57 | k | - | - |
| MGUS-12 | | | M | 67 | k | - | - |
| MGUS-13 | | | M | 61 | - | - | - |
| MGUS-14 | | | F | 55 | k | - | - |
| MGUS-15 | | | F | 77 | k | - | - |
| MGUS-16 | | | M | 73 | k | - | - |
| | | | | | | | |
| SMM-1 | | | F | 38 | k | - | - |
| SMM-2 | | | F | 68 | k | - | - |
| SMM-3 | | | F | 67 | l | - | - |
| SMM-4 | | | F | 69 | l | - | - |
| SMM-5 | | | M | 76 | k | - | - |
| SMM-6 | | | M | 58 | k | - | - |
| SMM-7 | | | F | 64 | k | - | - |
| SMM-8 | | | F | 41 | k | - | - |
| SMM-9 | | | F | 51 | l | - | - |
| SMM-10 | | | F | 70 | k | - | - |
| SMM-11 | | | M | 83 | k | - | - |
| SMM-12 | | | M | - | - | - | - |

| | | | | | | | |
|--------|----|-----|---|----|---|-----|-----|
| SMM-13 | | | M | 70 | k | - | - |
| SMM-14 | | | F | 65 | k | - | - |
| SMM-15 | | | F | 75 | l | - | - |
| SMM-16 | | | M | 58 | k | - | - |
| SMM-17 | | | M | 57 | k | - | - |
| SMM-18 | | | M | 80 | k | - | - |
| SMM-19 | | | M | 71 | k | - | - |
| SMM-20 | | | M | 81 | k | - | - |
| SMM-21 | | | M | 80 | k | - | - |
| SMM-22 | | | M | 93 | k | - | - |
| SMM-23 | | | M | 63 | k | - | - |
| SMM-24 | | | F | 57 | k | - | - |
| SMM-25 | | | F | 81 | k | - | - |
| | | | | | | | |
| MM-1 | ND | III | F | 67 | l | YES | LBD |
| MM-2 | ND | II | M | 65 | l | NO | |
| MM-3 | ND | II | M | 55 | k | YES | HBD |
| MM-4 | ND | II | M | 68 | k | NO | |
| MM-5 | ND | II | F | 79 | k | NO | |
| MM-6 | ND | III | F | 60 | l | YES | HBD |
| MM-7 | ND | I | M | 62 | k | NO | |
| MM-8 | ND | III | F | 75 | l | YES | NA |
| MM-9 | ND | III | F | 72 | k | YES | HBD |
| MM-10 | ND | I | F | 61 | k | NO | |
| MM-11 | ND | III | M | 73 | k | NO | |
| MM-12 | ND | III | M | 84 | l | YES | LBD |
| MM-13 | ND | III | F | 73 | l | YES | HBD |
| MM-14 | ND | I | M | 53 | k | YES | HBD |
| MM-15 | ND | II | F | 70 | k | YES | HBD |
| MM-16 | ND | I | F | 80 | k | YES | HBD |
| MM-17 | ND | II | F | 88 | l | NO | |
| MM-18 | ND | III | M | 58 | k | YES | HBD |
| MM-19 | ND | II | F | 83 | k | NO | |
| MM-20 | ND | II | F | 71 | k | YES | HBD |
| MM-21 | ND | III | M | 69 | l | YES | HBD |
| MM-22 | ND | II | F | 78 | l | YES | NA |
| MM-23 | ND | II | M | 78 | l | YES | HBD |
| MM-24 | ND | I | F | 62 | k | YES | NA |
| MM-25 | ND | I | M | 76 | k | YES | LBD |
| MM-26 | ND | III | F | 86 | l | NO | |
| MM-27 | ND | III | F | 89 | k | NO | |
| MM-28 | ND | I | M | 70 | k | YES | HBD |
| MM-29 | ND | III | F | 73 | | NO | |

| | | | | | | | |
|-------|----|-----|---|----|---|-----|-----|
| MM-30 | ND | II | M | 67 | k | NO | |
| MM-31 | ND | III | M | 88 | k | YES | HBD |
| MM-32 | ND | III | F | 88 | k | NO | |
| MM-33 | ND | III | M | 72 | k | YES | HBD |
| MM-34 | ND | III | M | 76 | l | YES | HBD |
| MM-35 | ND | II | F | 73 | l | YES | HBD |
| MM-36 | ND | II | F | 71 | k | NO | |
| MM-37 | ND | II | F | 52 | k | NO | |
| MM-38 | ND | III | M | 85 | k | YES | HBD |
| MM-39 | ND | III | F | 74 | k | YES | NA |
| MM-40 | ND | II | M | 77 | l | YES | HBD |
| MM-41 | ND | III | M | 79 | l | NO | |
| MM-42 | ND | III | F | 86 | l | YES | HBD |
| MM-43 | ND | III | M | 68 | k | NA | |
| MM-44 | ND | III | F | 74 | k | YES | NA |
| MM-45 | ND | III | M | 88 | l | NA | |
| MM-46 | ND | I | F | 53 | k | YES | HBD |
| MM-47 | ND | II | F | 79 | l | YES | LBD |
| MM-48 | ND | III | F | 84 | k | NA | |
| MM-49 | ND | III | M | 77 | l | NA | |
| MM-50 | R | I | F | 77 | l | NO | |
| MM-51 | R | II | F | 59 | k | YES | HBD |
| MM-52 | R | II | M | 82 | k | NA | |
| MM-53 | R | III | M | 73 | l | YES | LBD |
| MM-54 | R | III | M | 80 | k | NO | |
| MM-55 | R | III | F | 82 | k | YES | HBD |
| MM-56 | R | I | M | 67 | l | NO | |
| MM-57 | R | I | F | 70 | k | YES | HBD |
| MM-58 | R | I | F | 84 | k | NA | |
| MM-59 | R | II | M | 74 | l | YES | HBD |
| MM-60 | R | III | F | 72 | k | YES | NA |
| MM-61 | R | II | F | 71 | k | YES | HBD |
| MM-62 | R | I | F | 67 | | NO | |
| MM-63 | R | I | M | 70 | k | YES | HBD |
| MM-64 | R | III | F | 69 | k | NO | |
| MM-65 | R | III | F | 84 | k | NO | |
| MM-66 | R | I | M | 61 | k | NO | |
| MM-67 | R | I | F | 65 | l | NO | |
| MM-68 | R | I | M | 70 | k | NO | |
| MM-69 | R | III | M | 63 | l | NA | |
| MM-70 | R | III | M | 74 | k | YES | HBD |

Abbreviations: MGUS: Monoclonal Gammopathy of Undetermined Significance; SMM: Smoldering Multiple Myeloma; MM: Multiple Myeloma; ND: Newly Diagnosed; R: Relapsed; F: female; M: male; ISS: International Staging System; HBD: High Bone Disease; LBD: Low Bone Disease.