

Supplementary Table 3. Clinicopathological characteristics according to FAT1, USH2A, and MUC16 alteration status

| A. HCC according to FAT1 alteration status (n=112) |                         |                        |         |
|----------------------------------------------------|-------------------------|------------------------|---------|
| Characteristic                                     | FAT1-altered (n=23)     | FAT1-unaltered (n=89)  | P value |
| Male sex                                           | 16 (69.6%)              | 67 (75.3%)             | 0.590   |
| Age, years                                         | 71 [51–79]              | 71.5 [49–93]           | 0.820   |
| Etiology                                           |                         |                        | 0.330   |
| HBV                                                | 2 (8.7%)                | 10 (11.2%)             |         |
| HCV                                                | 10 (43.5%)              | 24 (27.0%)             |         |
| Non-B, non-C                                       | 11 (47.8%)              | 55 (61.8%)             |         |
| ICG-R15, %                                         | 11.2 [3.2–28.6]         | 11.1 [3.0–47.8]        | 0.890   |
| AFP ≥10                                            | 4 (17.4%)               | 29 (32.6%)             | 0.130   |
| DCP ≥40                                            | 16 (69.6%)              | 54 (60.7%)             | 0.470   |
| Clinical T stage                                   |                         |                        | 0.980   |
| T1                                                 | 2 (8.7%)                | 10 (11.2%)             |         |
| T2                                                 | 11 (47.8%)              | 37 (41.6%)             |         |
| T3                                                 | 8 (34.8%)               | 33 (37.1%)             |         |
| T4                                                 | 2 (8.7%)                | 9 (10.1%)              |         |
| Tumor size, mm                                     | 40 [20–120]             | 50 [12–190]            | 0.270   |
| Multiple lesions                                   | 4 (17.4%)               | 13 (14.6%)             | 0.910   |
| B. NEN according to USH2A alteration status (n=49) |                         |                        |         |
| Characteristic                                     | USH2A-altered (n=8)     | USH2A-unaltered (n=41) | P value |
| Male sex                                           | 5 (62.5%)               | 22 (53.7%)             | 0.710   |
| Age, years                                         | 58.5 [29–78]            | 60.0 [38–81]           | 0.820   |
| Ki-67 index, %                                     | 2.9 [0.5–9.4]           | 1.9 [0.5–85]           | 0.650   |
| Grade                                              |                         |                        | 0.940   |
| G1                                                 | 4 (50.0%)               | 23 (56.1%)             |         |
| G2                                                 | 4 (50.0%)               | 15 (36.6%)             |         |
| G3/NEC                                             | 0 (0.0%)                | 3 (7.3%)               |         |
| Tumor size, cm                                     | 1.75 [1.2–7.0]          | 2.2 [0.8–9.5]          | 0.510   |
| Functional tumor                                   | 1 (12.5%)               | 6 (14.6%)              | 1.000   |
| Hereditary disease                                 | 2 (25.0%); VHL and MEN1 | 0 (0.0%)               | 0.020   |
| C. NEN according to MUC16 alteration status (n=49) |                         |                        |         |
| Characteristic                                     | MUC16-altered (n=24)    | MUC16-unaltered (n=25) | P value |
| Male sex                                           | 13 (54.2%)              | 14 (56.0%)             | 1.000   |
| Age, years                                         | 60 [41–81]              | 59 [29–77]             | 0.120   |
| Ki-67 index, %                                     | 2.05 [0.5–85]           | 1.9 [0.5–27.5]         | 0.410   |
| Grade                                              |                         |                        | 0.400   |
| G1                                                 | 13 (54.2%)              | 14 (56.0%)             |         |
| G2                                                 | 9 (37.5%)               | 10 (40.0%)             |         |
| G3/NEC                                             | 2 (8.3%)                | 1 (4.0%)               |         |
| Tumor size, cm                                     | 2.0 [0.8–4.8]           | 2.0 [1.0–9.5]          | 0.750   |
| Functional tumor                                   | 4 (16.7%)               | 3 (12.0%)              | 0.700   |
| Hereditary disease                                 | 1 (4.2%); MEN1          | 1 (4.0%); VHL          | 1.000   |

Notes: Data are presented as n (%) or median [range], unless otherwise indicated.

Altered and unaltered indicate the presence or absence, respectively, of the corresponding gene alteration detected by ACT Onco+®.

Abbreviations: AFP, alpha-fetoprotein; DCP, des-gamma-carboxy prothrombin; HBV, hepatitis B virus; HCC, hepatocellular carcinoma; HCV, hepatitis C virus; ICG-R15, indocyanine green retention rate at 15 min; MEN1, multiple endocrine neoplasia type 1; NEC, neuroendocrine carcinoma; NEN, neuroendocrine neoplasm; VHL, von Hippel–Lindau disease.