Table 1: VHL status summary of human ccRCC samples

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | VHL status |  |  |  |  |  |  |  |
|  |  | Primary tumor | Metastasis [1] | Pathology | Stage | Size | Sample Location | Stage at specimen | Course | VHL mutation |
| #1 | Case 1 | N/A | + | ccRCC | N/A | N/A | N/A | N/A | N/A | N/A |
| #2 | Case 2 | N/A | + | ccRCC | N/A | N/A | N/A | N/A | N/A | N/A |
| #3 | Case 3 | N/A | + | ccRCC | N/A | N/A | N/A | N/A | N/A | N/A |
| #4 | Case 4 | N/A | ++ | ccRCC | N/A | N/A | N/A | N/A | N/A | N/A |
| #5 | Case 5 | N/A | +++ | ccRCC | N/A | N/A | N/A | N/A | N/A | N/A |
| #6 | Case 6 | N/A | ++++ | ccRCC | N/A | N/A | N/A | N/A | N/A | N/A |
| #7 | Case 7 | N/A | ++++ | ccRCC | N/A | N/A | N/A | N/A | N/A | N/A |
| #8 | Case 8 | N/A | + | ccRCC | N/A | N/A | N/A | N/A | N/A | N/A |
| #9 | Case 9 | N/A | +++++ | ccRCC | N/A | N/A | N/A | N/A | N/A | N/A |
| #10 | Case 10 | N/A | ++ | ccRCC | N/A | N/A | N/A | N/A | N/A | N/A |
| #11 | S09-2265 | +++ | +++++ | ccRCC | N/A | N/A | N/A | N/A | N/A | N/A |
| #12 | S12-7574 | + | +++++ | ccRCC | N/A | N/A | N/A | N/A | N/A | N/A |
| #13 | S13-5071 | +++ | ++ | ccRCC | N/A | N/A | N/A | N/A | N/A | N/A |
| #14 | S14-25301 | ++ | ++ | ccRCC | N/A | N/A | N/A | N/A | N/A | N/A |
| #15 | S15-2908 | +++ | ++ | ccRCC | N/A | N/A | N/A | N/A | N/A | N/A |
| #16 | S15-7490 | + | ++ | ccRCC | N/A | N/A | N/A | N/A | N/A | N/A |
| #17 | AC08112017 | N/A | +++ | ccRCC | T1a->N1M1 | 3.3cm | Metastatic | Metastatic | [2] | - |
| #18 | AC10062017 | ++ | N/A | ccRCC, Fuhrman 3/4 | T2 | 8.5cm | Primary | Localized | NED [3] | c.51\_623del |
| #19 | AC12132017 | + | N/A | ccRCC, Fuhrman 2/4 | T1a | 2.9cm | Primary | Localized | NED [3] | - |
| #20 | AC12152017 | + | N/A | ccRCC, Fuhrman 3/4 | T1b | 6.7cm | Primary | Localized | NED [3] | - |
| #21 | AC01192018 | ++ | N/A | ccRCC, Fuhrman 2/4 | T1a | 2.7cm | Primary | Localized | NED [3] | No mutation |
| #22 | AC01272018 | ++ | +++++ | ccRCC, Fuhrman 4/4 | T3aN0M2 | 10.1cm | Primary | Metastatic | [4] | c.506T>C |
| #23 | AC02152018 | +++++ | N/A | Oncocytoma | T2 | 8cm | Primary | Localized | N/A | c.51\_623del |
| #24 | AC02212018 | + | N/A | ccRCC, Fuhrman 3/4 | T2 | 7.2cm | Primary | Metastatic | [5] | c.564\_565insT |
| #25 | AC04052018 | ++ | N/A | ccRCC, Fuhrman 2/4 | T1a | 3.3cm | Primary | Localized | NED [3] | c.51\_623del |
| #26 | AC09252018 | ++ | N/A | ccRCC, Fuhrman 2/4 | T1a | 3.4cm | Primary | Localized | NED [3] | c.240T>A |



[1]: Metastasis as mentioned in this form includes both local invasion and lymph node metastasis

[2]: 65 y/o, female, the sample is a recurrent retroperitoneal lymph node metastasis resected 3 months after the patient received partial nephrectomy for her left renal mass

[3]: No evidence disease

[4]: 59 y/o, male, the sample is a primary renal mass from the right kidney in the first surgery. The patient presented with 10cm right renal mass and bilateral pulmonary nodules that were biopsy proven lung metastases. He underwent cytoreductive nephrectomy in the first surgery and received 5 months of cabozantinib until progression, then axitinib and ipilimumab/nivolumab for another 4 cycles and nivolumab maintenance therapy until death 1 year after the first surgery.

[5]: the patient is stable on cabozantinib