



Global Renal Cell Carcinoma Market Report: 2028

January 2018

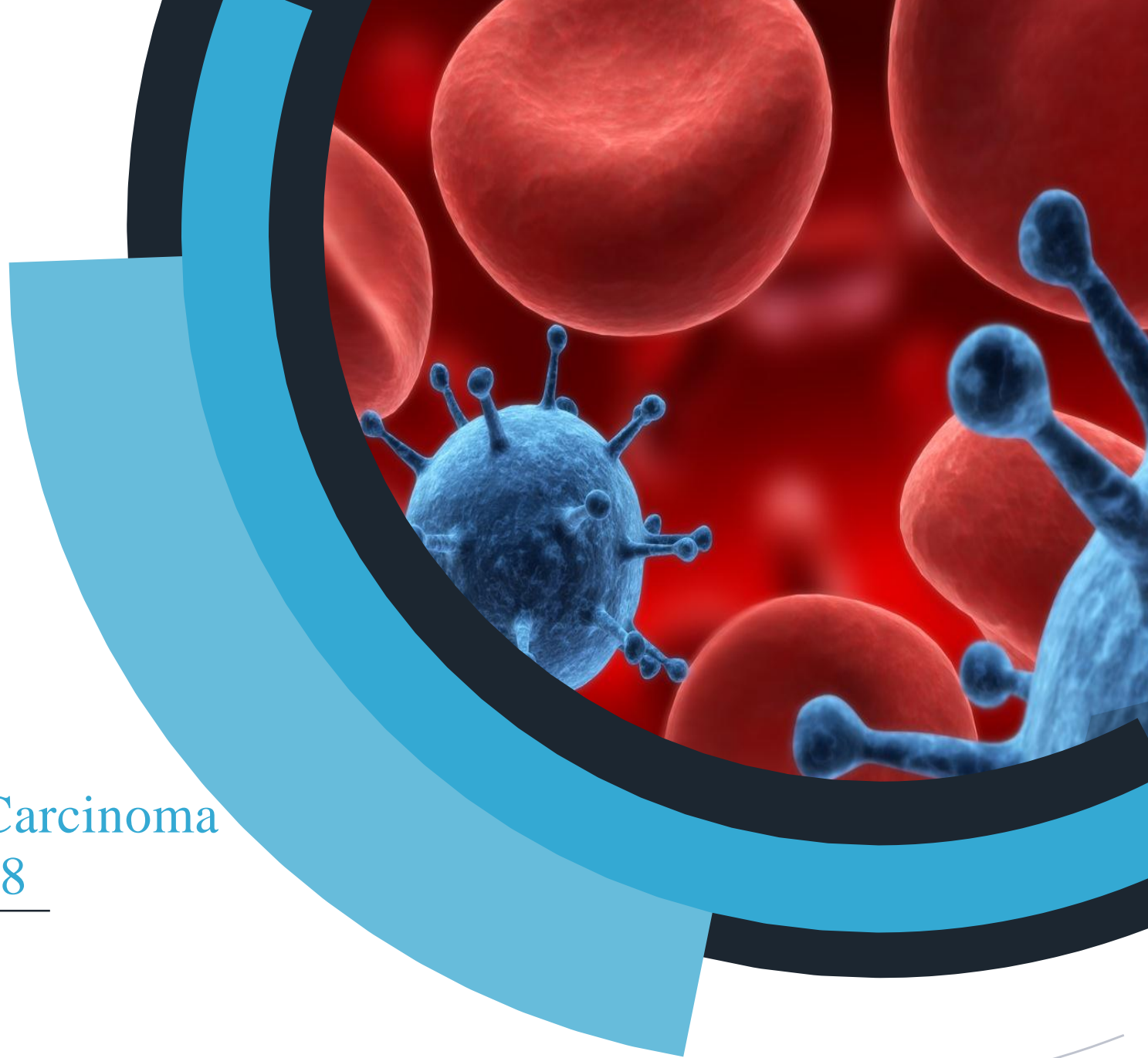


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Executive Summary

Renal cell carcinoma (RCC), also known as kidney cancer or renal adenocarcinoma, is the most common type of kidney cancer in adults. It occurs at an average age of 64 years. RCC is a disease which develops in the lining of the kidney tubules and grows into a mass or tumor. It accounts for approximately 3 percent of adult malignancies and 90 to 95 percent of malignant neoplasm (cancer cells) involving the kidneys. RCC occurs when DNA within the renal cells becomes damaged and the cycle of cell life and death is no longer normal. It typically begins as one or more tumor masses in a single kidney, but at times it develops in both kidneys at the same time. Its signs and symptoms include weight loss, fever, hypertension, malaise, night sweats, and blood in the urine.

Kidney cancer is the twelfth most common cancer diagnosed in the world. The age-adjusted incidence has been rising by 3 percent per year. In general, men are twice as prone to RCC as women. According to the Globocan cancer statistics, in 2012 the incidence was 3,37,860. Of this number, 63 percent of cases were men and 37 percent of cases were women. It is forecasted that 598,512 new cases will emerge in 2028 with a compound annual growth rate (CAGR) of 3 percent. Annually, 143,000 deaths are caused by kidney cancers. The National Cancer Institute estimated that approximately 63,990 people would be diagnosed with RCC in the US in 2017. In the US alone, almost 14,000 deaths occur from RCC each year. In the EU in 2012, there were approximately 84,000 cases and 35,000 deaths due to RCC.

The market is driven by the increasing incidence rate, increasing healthcare expenditures, treatment advancements and prompt diagnoses. Drugs such as Opdivo (Nivolumab), Avelumab, Tivozanib etc. are expected to boost the market growth, while factors such as the high cost of treatment, generic competition, and clinical and regulatory barriers are expected to slow market growth. The opportunity for growth lies in developing new drugs such as:

- checkpoint inhibitors
- cell-based therapies (e.g., Gamma-delta T cell therapy)

- antibody-drug conjugates (e.g., Anti-Ectonucleotide pyrophosphatase/phosphodiesterase family member (ENPP3) MAb-cytotoxic drug conjugate and Anti T-cell immunoglobulin mucin-1 (TIM-1) MAb-cytotoxic drug conjugate)
- cancer vaccines

The global renal cell carcinoma market is expected to witness substantial growth during the forecast period. The market is expected to reach a value of USD 7.3 billion by 2028 from the estimated value of USD 3.8 billion in 2018, at a CAGR of 6.7 percent. This can be attributed to the great investments by market players in the research and development of RCC therapy. Another factor is the growing penetration of drugs during the forecast period, and the existence of a strong pipeline.

Key players in the market are Pfizer, Bayer, Novartis, Roche, Exelixis and Bristol-Myers Squibb (BMS), with Pfizer leading the space in the market. The two most common medical treatments used for advanced RCC are:

- immunotherapy (including drugs such as Proleukin and Nivolumab)
- targeted therapy (including angiogenesis inhibitors such as Fotivda, Avastin, Cabometyx, Lenvima, Inlyta, Sutent, Torisel, Nexavar, Votrient and Afinitor)

The top assignee is Novartis, with a filing of 220 patents, followed by Merck having 134 patents. Most of the patents assigned to Novartis during the year 2017 focus on novel compositions to be used for the treatment of RCC. The patents with maximum impact factor mostly focus on heterocyclic compounds and based pharmaceutical compositions to be used for the treatment of RCC. Among the top assignees provided by Market research Pfizer, Novartis, Roche and Bristol-Myers Squibb (BMS) appear as top assignees in IP search as well. The inventors with maximum number fillings are Xi Ning and Weinschenk Toni. Xi Ning has filed maximum number of patents with Calitor Sciences.

Sutent is currently the standard of care for first-line treatment, while Afinitor is the standard of care in the second-line of treatment. Currently, these are usually given as monotherapy. But now, clinical trials are in progress to see if combination therapy (with standard therapy, other approved

drugs or new molecules) is better than monotherapy. More of the invested companies are exploring the possibility of combining the in-development molecules with standard therapies or immunotherapies. These companies are focused on developing treatment for the advanced/metastatic form of kidney cancer. Bristol-Myers Squibb, in collaboration with Ono Pharmaceutical, is leading in this space. Other leading companies in this area are Novartis, Roche, Eisai, Merck & Co. (as Merck Sharp & Dohme), AstraZeneca, Pfizer and Takeda. Very few companies like Bristol-Myers Squibb, Novartis, Eisai and Roche are investing on the rare variant, the non-clear cell RCC.

Key questions answered and insights delivered in the Report:

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2. Global RCC market size by value from 2018 to 2028
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