Chronic Kidney Disease Franchise

The Chronic Kidney Disease (CKD) Franchise is the most recent addition to AstraZeneca Cardiovascular and Metabolic Disease (CVMD) portfolio. Our novel approach and innovative pipeline therapies target new mechanisms of action and combine cross-category expertise with the goal of defining new standards of care for CKD patients.

AstraZeneca has been driving cardiovascular (CV) innovation for more than 100 years and continues to identify and address unmet patient needs within the CVMD therapy area.

About Chronic Kidney Disease

• CKD is a condition in which kidney function is damaged over time. The kidneys play an important role in filtering waste and fluids, contributing to the maintenance of blood glucose levels and controlling the production of red blood cells.\(^1\),\(^2\)

• If kidney function is severely compromised, dangerous levels of fluids, electrolytes and waste can build up in the body.\(^3\)

• If left untreated, CKD can lead to the increased risk of premature death from associated cardiovascular disease (CVD).\(^4\),\(^5\)

• CKD is a global public health issue, affecting an estimated 200 million people worldwide.\(^5\) Approximately 1 in 10 people live with some degree of CKD.\(^4\)

• Patients with CKD often face multiple comorbid health issues.\(^6\) CVD is a leading cause of death in people with CKD.\(^5\) The incidence of CKD is expected to increase as the prevalence of risk factors like hypertension, diabetes and CVD also rises.\(^7\),\(^8\),\(^9\)

AstraZeneca’s Approach to Chronic Kidney Disease

AstraZeneca is leveraging its expertise in CVMD and collaborating across therapeutic areas to build a portfolio of treatments that address both the complications and underlying causes of CKD progression.

To achieve this, we are leading and investing in groundbreaking science, forging new strategic partnerships and moving beyond managing CKD complications to identifying and addressing their root causes – and aiming to modify the disease itself.

Our novel pipeline therapies target unmet needs in the treatment of CKD complications and have the potential to change the standard of care.

• **LOKELMA™** (sodium zirconium cyclosilicate) is currently being investigated for the treatment of hyperkalaemia, a complication of CKD.
  • Hyperkalaemia is elevated potassium levels in the blood, a condition that can be life-threatening.\(^10\)
  • LOKELMA is an insoluble, calcium-free, non-absorbed compound with a structure designed to preferentially capture potassium ions, a different mechanism of action from current hyperkalaemia treatments.\(^11\)

• **Roxadustat** is currently being investigated for the treatment of anaemia and is being studied in dialysis dependent and non-dialysis dependent CKD patients.
  • Anaemia is a common complication of CKD in which the body has fewer red blood cells than normal, reducing the amount of oxygen delivered throughout the body.\(^12\)
  • Anaemia is associated with significant morbidity and mortality in patients with CKD.\(^13\)
  • Roxadustat is an oral hypoxia-inducible factor prolyl hydroxylase inhibitor (HIF-PHI).\(^14\)

• **Dapagliflozin**, an SGLT-2 inhibitor, is being investigated in a Phase IIIb outcomes trial for the management of CKD in people with and without type-2 diabetes. This marks the first time a major outcomes trial will be conducted to evaluate the effect of an SGLT-2 inhibitor in CKD, a disease for which there are currently few treatment options and a significant medical need.\(^5\),\(^15\)
  • SGLT-2 inhibitors work independently of insulin to help remove excess glucose via the kidneys.\(^16\)

• AstraZeneca has initiated a series of mechanistic trials to investigate the science behind the potential CV and renal protective signals seen with the SGLT-2 inhibitor class.

• Our strategic academic and scientific partnerships include:
  • Centre of Excellence for the Prevention of Organ Failure (PROOF) and the Canadian Study of Prediction of Death, Dialysis and Interim Cardiovascular Events (CanPREDICT) researching prognostic biomarkers for CKD to improve and individualise patient care.
  • French National Institute of Health and Medical Research (Inserm) exploring new therapeutic approaches to type-2 diabetes and CKD.
  • **University of Michigan** identifying biological targets and pathways to predict disease progression and treatment response.

*AstraZeneca is developing roxadustat in select countries in partnership with FibroGen*
Reference List


