

## Endocrinology, Diabetes and Metabolism



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Our endocrine research is anchored under the research theme of **Hormones, Metabolism and Reproduction**

(<http://www.birmingham.ac.uk/research/activity/mds/domains/hormones-metabolism-reproduction/index.aspx>) and takes place in the laboratories located in the **Centre for Endocrinology, Diabetes, and Metabolism (CEDAM)**

(<http://www.birmingham.ac.uk/research/activity/mds/centres/cedam/index.aspx>) at the University of Birmingham. Our research addresses the critical role of hormones in obesity, diabetes, cancer, infertility and many other conditions to find new diagnostic tools and treatments that will make a difference.

With around 50 researchers who together hold more than £20 million in live funding, together with Reproduction, Genes & Development researchers in this Section were the major contributors to achievement of our ranking 4<sup>th</sup> nationally in the 2008 RAE ("hospital based clinical subjects") (75% research rated world or internationally leading), with a strong portfolio of translational research underpinned by large clinical datasets. Current initiatives are supported by major awards from MRC, the Wellcome Trust and the European Commission to study a range of topics including glucocorticoid, gonadal steroid and thyroid hormone actions and pre-receptor regulation, as well as pathogenesis of endocrine autoimmune diseases and endocrine cancers. A range of programme grant funded research is being undertaken in diabetes, obesity and metabolism; fetal and reproductive endocrinology; thyroid tumourigenesis and molecular investigations of endocrine and hormone-dependent cancer predisposition and pathology.

Our research adopts a truly translational bench-to-bedside and bedside-to-bench approach. We use state-of-the-art molecular and cell biology techniques through to ground-breaking rodent models and the highest quality cutting edge metabolic research in patients. We use unparalleled clinical research facilities which lie immediately adjacent to our basic science laboratories and the Queen Elizabeth Hospital.

Our strengths lie in understanding the causes of rare diseases such as congenital adrenal hyperplasia, adrenal insufficiency and premature puberty that exemplify mechanisms that are of importance in common diseases such as obesity, diabetes, and polycystic ovary syndrome, the leading cause of female infertility.

We lead on developing new biomarker and treatment tools for rare cancers including adrenal and thyroid cancer, which helps us to also achieve progress for common cancer, e.g. breast and prostate. We are at the forefront of hormone research, unravelling the actions of glucocorticoids and sex steroids and their role in human disease.

Our world-leading researchers work with collaborative networks of clinicians and scientists across the globe to understand the mechanisms that underlie endocrine disease and to identify new targets for treatment strategies that will have significant benefits to patients. Hormones are the master communicators interacting with all cells in the body; deciphering their language provides us with powerful tools for combating disease.