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The GenitoUrinary Development Molecular Anatomy Project (GUDMAP) is a consortium of laboratories working to provide the scientific and medical community with gene expression data and tools to facilitate research (see www.gudmap.org). The data provided by GUDMAP includes large in situ hybridization screens (wholemout and section) and expression microarray analysis of components of the developing mouse urogenital system (including laser-captured material and FACS-isolated cells from transgenic reporter mice). In addition, a high-resolution ontology has been developed by members of the GUDMAP consortium to describe the subcompartments of the developing murine genitourinary tract.

The GUDMAP Database Development Team and Editorial Office - both based in Edinburgh - function to ensure submission, curation, storage and presentation of the data submitted by the GUDMAP consortium. Our collective aim is twofold: 1) to simplify the process of submission so that data is publically available as soon as it is produced; and 2) to organize this information in a database and ensure that the online interface is continuously available and easy to use. Thus far, we have developed a range of tools that help both the submitter and the end user. These include: an online annotation tool that simplifies in situ data submission through an ontology-based graphical user interface; a database interface that allows users to browse and query expression data, and to filter data by organ system; a heat-map display of microarray data and analyses. Furthermore, the Edinburgh team has developed a GUDMAP Disease Database that queries associations between genes, genitourinary diseases, and renal/urinary and reproductive phenotypes. In collaboration with GUDMAP consortium members at the CCHMC (Cincinnati Children's Hospital Medical Center), the Disease Database is being extended to include mammalian phenotypes mapped to OMIM entries.

By virtue of its impressive dataset and its ease of use we hope that the GUDMAP Website will continue to serve as a powerful resource for biologists, clinicians and bioinformaticians with an interest in the urogenital system.