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Protocols for Molecular Characterization of the Female Reproductive System

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ABSTRACT

Here we describe our multi-step protocol to generate a comprehensive molecular characterization of the female reproductive system. We begin with organ procurement that maintains functional characteristics of the uterus, ovaries, and Fallopian tubes and then describe our structured tissue sampling procedure that represents anatomical, physiological, and individual diversity of the female reproductive system, toward full exploration of the function and structure of female reproductive cells.

These protocols were developed as part of the National Institutes of Health (NIH) Human BioMolecular Atlas Program (HuBMAP), we are centered around the 10X Genomics Multiome and 10X Genomics Visium platforms.

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ATACseq, RNAseq, Visium, ovary, Fallopian tube, uterus

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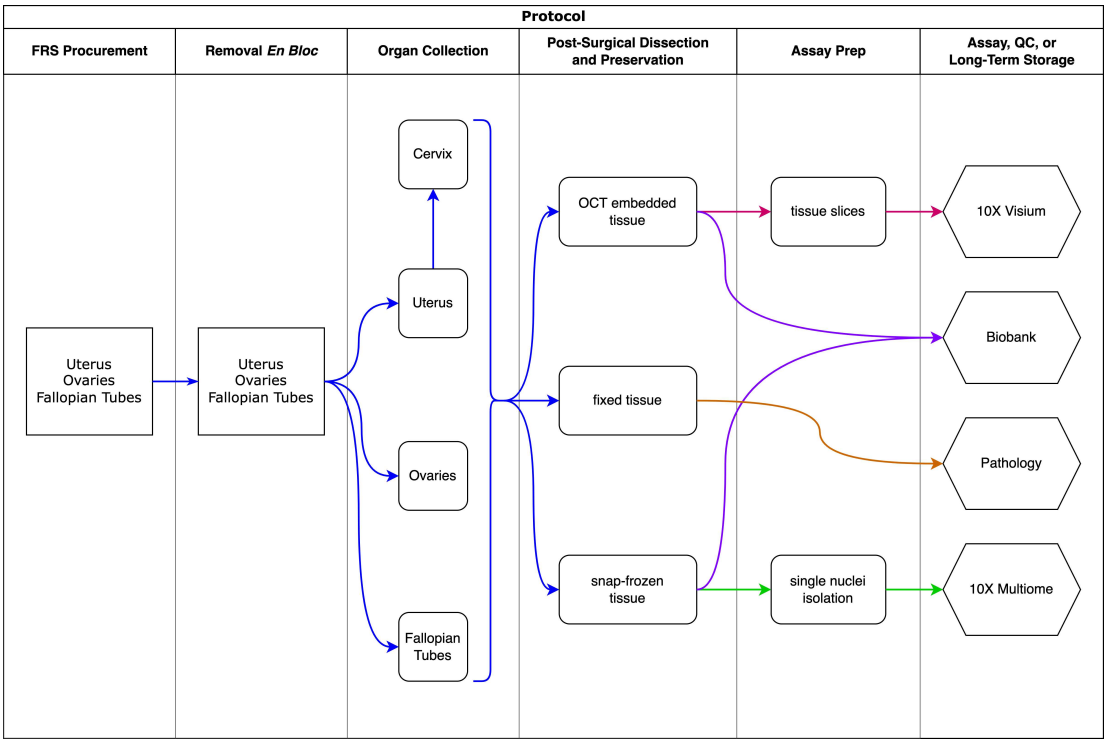

Overview of Protocols. Graphic overview of the order and processing employed by HuBMAP's Tissue Mapping Center at Penn to create a 3D molecular map of the female reproductive system.

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2 Preparation and Preservation of the Female Reproductive System (ovaries, Fallopian tubes and uterus) Prior to Procurement
https://dx.doi.org/10.17504/protocols.io.ewov1nr57gr2/v1

3 Removal of the Female Reproductive System *En Bloc*
https://dx.doi.org/10.17504/protocols.io.bp2l61jrzvqe/v1

4 Post-Surgical Dissection of Ovaries
https://dx.doi.org/10.17504/protocols.io.j8nlkkzn1l5r/v1

5 Post-Surgical Dissection of Fallopian Tubes
https://dx.doi.org/10.17504/protocols.io.14egn75eqv5d/v1

6 Post-Surgical Dissection of Cervix
https://dx.doi.org/10.17504/protocols.io.5jyl89467v2w/v1

7 Post-Surgical Dissection of Uterine Body
https://dx.doi.org/10.17504/protocols.io.8epv59yb4g1b/v1

8 Tissue Slice Preparation for Visium Analysis
https://dx.doi.org/10.17504/protocols.io.eq2lyno9qvx9/v1

9 Manual Tissue Dissociation for Multiome Analysis
https://dx.doi.org/10.17504/protocols.io.8epv59y34g1b/v1

10 Tissue Dissociation for Multiome Analysis Using S2 Singulator
https://dx.doi.org/10.17504/protocols.io.yxmvmndx6g3p/v1

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