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Protocols for Molecular Characterization of the Female Reproductive System

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Protocol status: Working

We use this protocol and it's working

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Keywords: ATACseq, RNAseq, Visium, ovary, Fallopian tube, uterus, comprehensive molecular characterization of the female reproductive system, female reproductive cell, 10x genomics multiome, structure of female reproductive cell, female reproductive system, individual diversity of the female reproductive system, 10x genomics visium platform, human biomolecular atlas program, 10x genomic, genomic, protocols for molecular characterization, comprehensive molecular characterization, functional characteristics of the uterus, structured tissue sampling procedure, fallopian tube, molecular characterization

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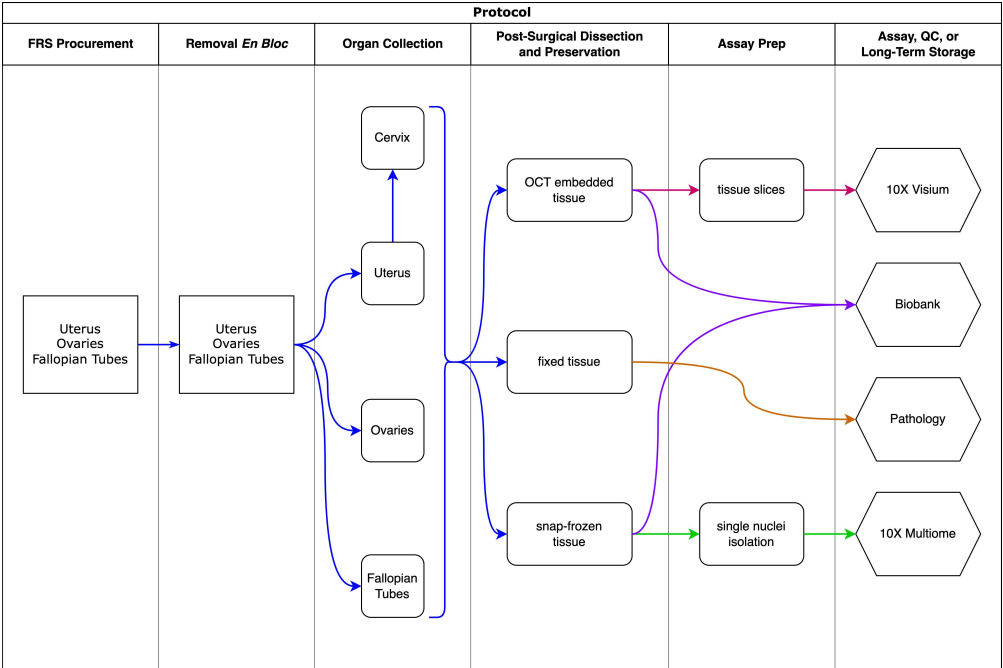
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Abstract

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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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.

- 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.bp2l6l1jrzvqe/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>