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Version 1

Sanger Tree of Life Wet Laboratory Protocol Collection V.1

DOI

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Protocol status: Working

We use this collection and it's working

Created: August 24, 2023

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Collection Integer ID: 86929

Keywords: reference genome, long read sequencing, sample preparation, tissue dissection, sample homogenisation, PowerMasher, cryoPREP, tissue disruption, cryogenic tissue disruption, plant tissue disruption, tissue homogenisation, cryogenic bead beating, HMW DNA extraction, magnetic bead extraction, automated DNA extraction, KingFisher, MagAttract, manual DNA extraction, plant HMW DNA extraction, solid phase reversible immobilisation, Nanobind, nucleated blood extractions, mollusc extraction, organic extraction, next generation sequencing, third generation sequencing, HMW DNA fragmentation, Megaruptor, low input, PacBio, ultra-low input, Covaris, g-TUBE, SPRI, automated SPRI, manual SPRI, AMPure PB beads, DNA clean-up, RNA extraction, manual RNA extraction, TRIzol, RNA-Seq, Iso-Seq, automated RNA extraction, MagMax, mirVana, magnetic beads, HMW DNA pooling, sanger tree of life wet laboratory protocol collection, life wet laboratory protocol collection, life wet laboratory protocol, collection of sanger tree, sanger tree of life, generation of reference level genome

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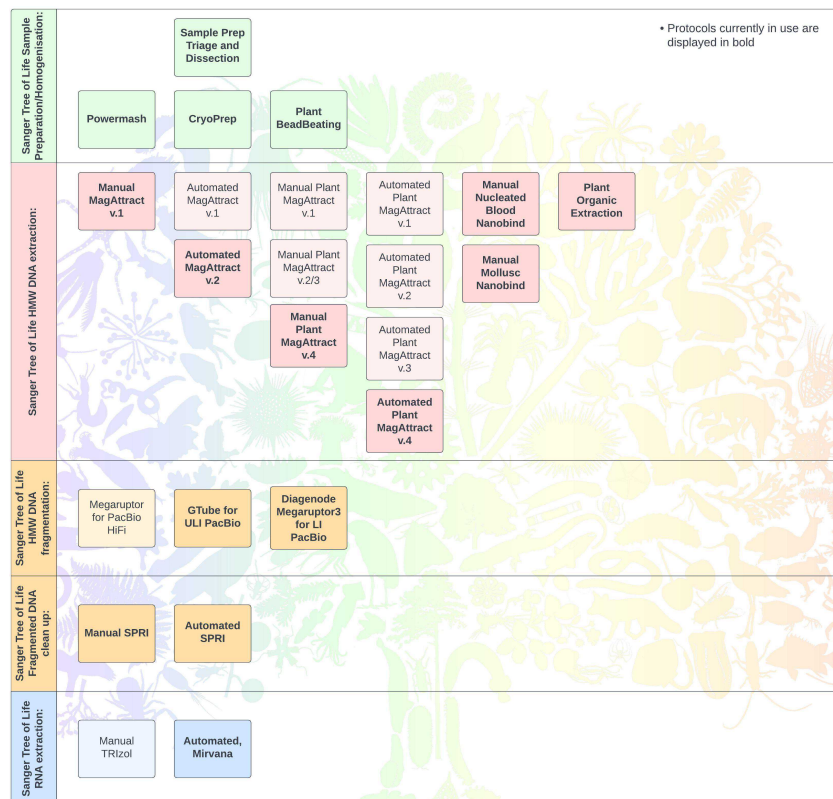
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Abstract

This is the collection of Sanger Tree of Life Wet Laboratory protocols used for the generation of reference level genome assemblies.

This collection currently contains protocols which cover all stages of the wet laboratory processes performed by the Sanger Tree of Life; these processes are sample preparation, sample homogenisation, HMW DNA extraction, HMW DNA fragmentation, fragmented DNA clean-up and RNA extraction.

This collection will be updated as protocols within the Tree of Life Core Laboratory continue to be developed and refined.



Overview of the segmentation of work processes and protocols in the Tree of Life Core Laboratory as part of the Tree of Life Programme at the Wellcome Sanger Institute for reference genome generation.



Files

Protocol



NAME

Sanger Tree of Life Sample Preparation: Triage and Dissection

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NAME

Sanger Tree of Life Sample Homogenisation: PowerMash

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NAME

Sanger Tree of Life Sample Homogenisation: Covaris cryoPREP® Automated Dry Pulverizer

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Protocol



NAME

Sanger Tree of Life Sample Homogenisation: Cryogenic Bead Beating of Plants with FastPrep-96

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NAME

Sanger Tree of Life HMW DNA Extraction: Manual MagAttract

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NAME

Sanger Tree of Life HMW DNA Extraction: Automated MagAttract v.1

VERSION 1

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Protocol



NAME

Sanger Tree of Life HMW DNA Extraction: Automated MagAttract v.2

VERSION 1

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Protocol



NAME

Sanger Tree of Life HMW DNA Extraction: Manual Plant MagAttract v.1

VERSION 1

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Protocol



NAME

Sanger Tree of Life HMW DNA Extraction: Manual Plant MagAttract v.2/3

VERSION 1

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Protocol



NAME

Sanger Tree of Life HMW DNA Extraction: Manual Plant MagAttract v.4

VERSION 1

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Protocol



NAME

Sanger Tree of Life HMW DNA Extraction: Automated Plant MagAttract v.1

VERSION 1

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Protocol



NAME

Sanger Tree of Life HMW DNA Extraction: Automated Plant MagAttract v.2

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Protocol



NAME

Sanger Tree of Life HMW DNA Extraction: Automated Plant MagAttract v.3

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Protocol



NAME

Sanger Tree of Life HMW DNA Extraction: Automated Plant MagAttract v.4

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Protocol



NAME

Sanger Tree of Life HMW DNA Extraction: Manual Nucleated Blood Nanobind®

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Protocol



NAME

Sanger Tree of Life HMW DNA Extraction: Manual Mollusc Nanobind®

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Protocol



NAME

Sanger Tree of Life HMW DNA Extraction: Plant Organic HMW gDNA Extraction (POE)

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Protocol



NAME

Sanger Tree of Life HMW DNA Fragmentation: Diagenode Megaruptor®3 for PacBio HiFi

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NAME

Sanger Tree of Life HMW DNA Fragmentation: Covaris g-TUBE for ULI PacBio

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NAME

Sanger Tree of Life HMW DNA Fragmentation: Diagenode Megaruptor®3 for LI PacBio

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NAME

Sanger Tree of Life Fragmented DNA clean up: Manual SPRI

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Protocol



NAME

Sanger Tree of Life Fragmented DNA clean up: Automated SPRI

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Protocol



NAME

Sanger Tree of Life RNA Extraction: Manual TRIzol™

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Protocol



NAME

Sanger Tree of Life RNA Extraction: Automated MagMax™ mirVana

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Protocol



NAME

Sanger Tree of Life HMW DNA Extraction: Pooling

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