

Materials List for

Genome-wide Profiling of Transcription Factor-DNA Binding Interactions in *Candida albicans*: A Comprehensive CUT&RUN Method and Data Analysis Workflow

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Materials

| Name | Company | Catalog Number | Comments |
|--|-------------------|----------------|---|
| 0.22 µm filter | Millipore Sigma | SLGPM33RS | |
| 0.65 mL low-adhesion tubes | VWR | 490003-190 | |
| 1 M CaCl ₂ | Fisher Scientific | 50-152-341 | |
| 1 M PIPES | Fisher Scientific | AAJ61224AK | |
| 12-well untreated cell culture plates | Corning | 351143 | |
| 2-mercaptoethanol | Sigma-Aldrich | 60-24-2 | |
| 2% Digitonin | Fisher Scientific | CHR103MI | |
| 50 mL conical tubes | VWR | 89039-658 | |
| 5x phusion HF buffer | Fisher Scientific | F530S | Item part of the Phusion high fidelity DNA polymerase; referred to in text as "DNA polymerase buffer" |
| Agar | Criterion | C5001 | |
| Agencourt AMPure XP magnetic beads | Beckman Coulter | A63880 | |
| Agilent Bioanalyzer | Agilent | G2939BA | Referred to in the text as "capillary electrophoresis instrument"; user-dependent |
| Amplitude PCR reaction strips with attached caps, Simport Scientific | VWR | 89133-910 | |
| Bacto peptone | BD Biosciences | 211677 | |
| Benchling primer design tool | Benchling | | https://www.benchling.com/molecular-biology/ ; Referred to in the text as "the primer design tool" |

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| Betaine | Fisher Scientific | AAJ77507AB | |
| Calcofluor white stain | Sigma-Aldrich | 18909-100ML-F | |
| <i>Candida</i> Genome Database | | | http://www.candidagenome.org/ |
| Concanavalin A (ConA) conjugated paramagnetic beads | Polysciences | 86057-3 | |
| Conda software | | | https://docs.conda.io/en/latest/miniconda.html |
| curl tool | | | http://www.candidagenome.org/download/sequence/C_albicans_SC5314/Assembly21/current/C_albicans_SC5314_A21_current_chromosomes.fasta.gz |
| CUTANA ChIC/CUT&RUN kit | Epicypther | 14-1048 | Referred to in the text as "the CUT&RUN kit" |
| Deoxynucleotide (dNTP) solution mix (10 mM) | New England Biolabs | N0447S | |
| Dextrose (D-glucose) | Fisher Scientific | D163 | |
| Difco D-mannitol | BD Biosciences | 217020 | |
| Disposable cuvettes | Fisher Scientific | 14-955-127 | |
| Disposable transfer pipets | Fisher Scientific | 13-711-20 | |
| DNA Gel Loading Dye (6x) | Fisher Scientific | R0611 | |
| DreamTaq green DNA polymerase | Fisher Scientific | EP0713 | Referred to in the text as "cPCR DNA polymerase" |
| DreamTaq green DNA polymerase buffer | Fisher Scientific | EP0713 | Item part of the DreamTaq green DNA polymerase; referred to in the text as "cPCR DNA polymerase buffer" |
| <i>E. coli</i> spike-in DNA | Epicypther | 18-1401 | |
| ELMI Microplate incubator | ELMI | TRMS-04 | Referred to in the text as "microplate incubator" |
| End Prep Enzyme Mix | | | Item part of the NEBNext Ultra II DNA Library Prep kit |
| End Prep Reaction Buffer | | | Item part of the NEBNext Ultra II DNA Library Prep kit |
| Ethanol 200 proof | VWR | 89125-170 | |
| FastDigest MssI | Fisher Scientific | FD1344 | Referred to in the text as "restriction enzyme" |
| FastDigest MssI Buffer | Fisher Scientific | FD1344 | Item part of the FastDigest MssI kit; referred to in the text as "restriction enzyme buffer" |
| Ficoll 400 | Fisher BioReagents | BP525-25 | |
| Fluorescence microscope | | | User-dependent |
| Gel electrophoresis apparatus | | | User-dependent |
| GeneRuler low range DNA ladder | Fisher Scientific | FERSM1192 | |
| GitBash workflow | | | https://gitforwindows.org/ |
| GitHub source code | | | https://github.com/akshayparopkari/cut_run_analysis |
| HEPES-KOH pH 7.5 | Boston BioProducts | BBH-75-K | |
| High-speed centrifuge | | | User-dependent |
| Isopropanol | Sigma-Aldrich | PX1830-4 | |
| Lens paper | VWR | 52846-001 | |
| Ligation Enhancer | | | Item part of the NEBNext Ultra II DNA Library Prep kit |
| Lithium acetate dihydrate | MP Biomedicals | 215525683 | |

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| Living Colors Full-Length GFP polyclonal antibody | Takara | 632592 | User-dependent |
| MACS2 | | | https://pypi.org/project/MACS2/ |
| Magnetic separation rack, 0.2 mL tubes | Epicypther | 10-0008 | |
| Magnetic separation rack, 1.5 mL tubes | Fisher Scientific | MR02 | |
| MgCl ₂ | Sigma-Aldrich | M8266 | |
| Microcentrifuge tubes 1.5 mL | Fisher Scientific | 05-408-129 | |
| Microplate and cuvette spectrophotometer | BioTek | EPOCH2TC | Referred to in the text as "spectrophotometer"; user-dependent |
| MochiView | | | http://www.johnsonlab.ucsf.edu/mochiview-downloads |
| MOPS | Sigma-Aldrich | M3183 | |
| NaCl | VWR | 470302-522 | |
| NaOH | Fisher Scientific | S318-500 | |
| NCBI GEO | | | https://www.ncbi.nlm.nih.gov/geo/ |
| NEBNext Adaptor for Illumina | | | Item part of the NEBNext Multiplex Oligos for Illumina (Index Primers Set 1); referred to in the text as "Adapter" |
| NEBNext Index X Primer for Illumina | | | Item part of the NEBNext Multiplex Oligos for Illumina (Index Primers Set 1); referred to in the text as "Reverse Uniquely Indexed Library Amplification Primer" |
| NEBNext Multiplex Oligos for Illumina (Index Primers Set 1) | New England Biolabs | E7335S | |
| NEBNext Ultra II DNA Library Prep kit | New England Biolabs | E7645S | Referred to in the text as "library prep kit" |
| NEBNext Universal PCR Primer for Illumina | | | Item part of the NEBNext Multiplex Oligos for Illumina (Index Primers Set 1); referred to in the text as "Universal Forward Library Amplification Primer" |
| Nourseothricin sulfate (NAT) | Goldbio | N-500-2 | |
| Novex TBE Gels, 10%, 15 well | Fisher Scientific | EC62755BOX | |
| Nutating mixer | VWR | 82007-202 | |
| Nutrient broth | Criterion | C6471 | |
| pADH110 | Addgene | 90982 | Referred to in the text as "plasmid repository ID# 90982" |
| pADH119 | Addgene | 90985 | Referred to in the text as "plasmid repository ID# 90985" |
| pADH137 | Addgene | 90986 | Referred to in the text as "plasmid repository ID# 90986" |
| pADH139 | Addgene | 90987 | Referred to in the text as "plasmid repository ID# 90987" |
| pADH140 | Addgene | 90988 | Referred to in the text as "plasmid repository ID# 90988" |
| pAG-MNase | Epicypther | 15-1016 or 15-1116 | 50 rxn or 250 rxn |
| pCE1 | Addgene | 174434 | Referred to in the text as "plasmid repository ID# 174434" |
| Petri dishes with clear lid | Fisher Scientific | FB0875712 | |
| Phusion high fidelity DNA polymerase | Fisher Scientific | F530S | Referred to in the text as "DNA polymerase" |
| Polyethylene glycol (PEG) 3350 | VWR | 10791-816 | |

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| Potassium phosphate monobasic | Fisher Scientific | P285-500 | |
| Qubit 1x dsDNA HS assay kit | Invitrogen | Q33230 | |
| Qubit fluorometer | Life Technologies | Q33216 | Referred to in the text as "fluorometer"; user-dependent |
| Rabbit IgG negative control antibody | Epcypher | 13-0042 | |
| RNase A | Sigma-Aldrich | 10109169001 | |
| Roche Complete protease inhibitor (EDTA-free) tablets | Sigma-Aldrich | 5056489001 | |
| RPMI-1640 | Sigma-Aldrich | R6504 | |
| Shaking incubator | Eppendorf | M12820004 | User-dependent |
| Sorbitol | Sigma-Aldrich | S1876-500G | |
| Spin-X centrifuge tube filters | Fisher Scientific | 07-200-385 | |
| Sterile inoculating loops | VWR | 30002-094 | |
| SYBR Gold nucleic acid gel stain | Fisher Scientific | S11494 | |
| SYTO 13 nucleic acid stain | Fisher Scientific | S7575 | Referred to in the text as "nucleic acid gel stain" |
| Thermocycler | | | User-dependent |
| ThermoMixer C | Eppendorf | 5382000023 | |
| Tris (hydroxymethyl) aminomethane | Sigma-Aldrich | 252859-100G | |
| Ultra II Ligation Master Mix | | | Item part of the NEBNext Ultra II DNA Library Prep kit; referred to in the text as "Ligation Master Mix" |
| Ultra II Q5 Master Mix | | | Item part of the NEBNext Ultra II DNA Library Prep kit; referred to in the text as "High Fidelity DNA Polymerase Master Mix " |
| UltraPure salmon sperm DNA solution | Invitrogen | 15632011 | |
| USER Enzyme | | | Item part of the NEBNext Ultra II DNA Library Prep kit; referred to in the text as "Uracil Excision Enzyme" |
| Vortex mixer | VWR | 10153-834 | |
| wget tool | | | http://www.candidagenome.org/download/sequence/C_albicans_SC5314/Assembly21/current/C_albicans_SC5314_A21_current_chromosomes.fasta.gz |
| Yeast extract | Criterion | C7341 | |
| Zymolyase 100T (lyticase, yeast lytic enzyme) | Fisher Scientific | NC0439194 | |