

Materials List for:

Automated Protocols for Macromolecular Crystallization at the MRC Laboratory of Molecular Biology

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Materials

Name	Company	Catalog Number	Comments
Robots			
Freedom EVO®	Tecan	n/a	Liquid handler (System 1). Aspiration/Dispense based on system liquid. Integrates an automated carousel. EVOware plus controlling software v.2.4.12.0.
Microlab® STAR™	Hamilton	n/a	Liquid handler (System 2). Aspiration/Dispense based on positive displacement (CO-RE™ technology). Hamilton STAR controlling software v.4.3.5.4785 with method management interface.
Mosquito®	TTP Labtech	n/a	Microsyringe-based nanoliter dispenser used to set up droplets (System 2 and stand-alone), 3-position deck. Controlling software v.3.11.0.1422.
Dragonfly®	TTP Labtech	n/a	Syringe-based liquid handler used to produce optimization screens (4-corner method). Controlling software v.1.2.1.10196.
Adhesive plate sealer	Brandel	n/a	Integrated to Systems 1 and 2 (also used as stand-alone robot).
Inkjet printer 9232	Markem-Imaje	n/a	Integrated to System 1. Touchscreen interface.
Crystallization screens			
Crystal Screen™ 1	Hampton Research	HR2-110	Crystallization kit (test tubes, 10mL per condition) used in LMB01
Crystal Screen 2™	Hampton Research	HR2-112	Crystallization kit (test tubes, 10mL per condition) used in LMB01
Wizard™ Classic 1	Rigaku	1009530	Crystallization kit (test tubes, 10mL per condition) used in LMB02
Wizard™ Classic 2	Rigaku	1009531	Crystallization kit (test tubes, 10mL per condition) used in LMB02
Grid Screen™ Ammonium Sulfate	Hampton Research	HR2-211	Crystallization kit (test tubes, 10mL per condition) used in LMB03
Grid Screen™ PEG/LiCl	Hampton Research	HR2-217	Crystallization kit (test tubes, 10mL per condition) used in LMB03
Quick Screen™	Hampton Research	HR2-221	Crystallization kit (test tubes, 10mL per condition) used in LMB03

Grid Screen™ Sodium Chloride	Hampton Research	HR2-219	Crystallization kit (test tubes, 10mL per condition) used in LMB03
Grid Screen™ PEG 6000	Hampton Research	HR2-213	Crystallization kit (test tubes, 10mL per condition) used in LMB04
Grid Screen™ MPD	Hampton Research	HR2-215	Crystallization kit (test tubes, 10mL per condition) used in LMB04
MemFac™	Hampton Research	HR2-114	Crystallization kit (test tubes, 10mL per condition) used in LMB04
PEG/Ion™	Hampton Research	HR2-126	Crystallization kit (test tubes, 10mL per condition) used in LMB05
Natrix™	Hampton Research	HR2-116	Crystallization kit (test tubes, 10mL per condition) used in LMB05
Crystal Screen Lite™	Hampton Research	HR2-128	Crystallization kit (test tubes, 10mL per condition) used in LMB06
Custom Lite screen	Molecular Dimensions Ltd	n/a	Crystallization kit (test tubes, 10mL per condition) used in LMB06
Wizard™ Cryo 1	Rigaku	1009536	Crystallization kit (test tubes, 10mL per condition) used in LMB07
Wizard™ Cryo 2	Rigaku	1009537	Crystallization kit (test tubes, 10mL per condition) used in LMB07
JBS1	JenaBioScience	CS-101L	Crystallization kit (test tubes, 10mL per condition) used in LMB08
JBS2	JenaBioScience	CS-102L	Crystallization kit (test tubes, 10mL per condition) used in LMB08
JBS3	JenaBioScience	CS-103L	Crystallization kit (test tubes, 10mL per condition) used in LMB08
JBS4	JenaBioScience	CS-104L	Crystallization kit (test tubes, 10mL per condition) used in LMB08
JBS5	JenaBioScience	CS-105L	Crystallization kit (test tubes, 10mL per condition) used in LMB09
JBS6	JenaBioScience	CS-106L	Crystallization kit (test tubes, 10mL per condition) used in LMB09
JBS7	JenaBioScience	CS-107L	Crystallization kit (test tubes, 10mL per condition) used in LMB09
JBS8	JenaBioScience	CS-108L	Crystallization kit (test tubes, 10mL per condition) used in LMB09
JBS9	JenaBioScience	CS-109L	Crystallization kit (test tubes, 10mL per condition) used in LMB10
JBS10	JenaBioScience	CS-110L	Crystallization kit (test tubes, 10mL per condition) used in LMB10
Clear Strategy™ Screen 1 pH 4.5	Molecular Dimensions Ltd	MD1-16LMB	Crystallization kit (test tubes, 10mL per condition) used in LMB10
Clear Strategy™ Screen 1 pH 5.5	Molecular Dimensions Ltd	MD1-16LMB	Crystallization kit (test tubes, 10mL per condition) used in LMB10
Clear Strategy™ Screen 1 pH 6.5	Molecular Dimensions Ltd	MD1-16LMB	Crystallization kit (test tubes, 10mL per condition) used in LMB11
Clear Strategy™ Screen 1 pH 7.5	Molecular Dimensions Ltd	MD1-16LMB	Crystallization kit (test tubes, 10mL per condition) used in LMB11
Clear Strategy™ Screen 1 pH 8.5	Molecular Dimensions Ltd	MD1-16LMB	Crystallization kit (test tubes, 10mL per condition) used in LMB11
Clear Strategy™ Screen 2 pH 4.5	Molecular Dimensions Ltd	MD1-16LMB	Crystallization kit (test tubes, 10mL per condition) used in LMB11
Clear Strategy™ Screen 2 pH 5.5	Molecular Dimensions Ltd	MD1-16LMB	Crystallization kit (test tubes, 10mL per condition) used in LMB12

Clear Strategy™ Screen 2 pH 6.5	Molecular Dimensions Ltd	MD1-16LMB	Crystallization kit (test tubes, 10mL per condition) used in LMB12
Clear Strategy™ Screen 2 pH 7.5	Molecular Dimensions Ltd	MD1-16LMB	Crystallization kit (test tubes, 10mL per condition) used in LMB12
Clear Strategy™ Screen 2 pH 8.5	Molecular Dimensions Ltd	MD1-16LMB	Crystallization kit (test tubes, 10mL per condition) used in LMB12
Index™	Hampton Research	HR2-144	Crystallization kit (test tubes, 10mL per condition) used in LMB13
SaltRX™ 1	Hampton Research	HR2-107	Crystallization kit (test tubes, 10mL per condition) used in LMB14
SaltRX™ 2	Hampton Research	HR2-109	Crystallization kit (test tubes, 10mL per condition) used in LMB14
MemStar™	Molecular Dimensions Ltd	MD1-21	Crystallization kit (test tubes, 10mL per condition) used in LMB15
MemSys™	Molecular Dimensions Ltd	MD1-25	Crystallization kit (test tubes, 10mL per condition) used in LMB15
JCSG-plus™ Suite	Qiagen	130720	Crystallization kit (test tubes, 10mL per condition) used in LMB16
MORPHEUS® screen	Molecular Dimensions Ltd	MD1-46	Crystallization kit (test tubes, 10mL per condition) used in LMB17
Pi minimal screen	JenaBioScience	CS-127	Crystallization kit (test tubes, 10mL per condition) used in LMB18
Pi-PEG screen	JenaBioScience	CS-128	Crystallization kit (test tubes, 10mL per condition) used in LMB19
MORPHEUS® II screen	Molecular Dimensions Ltd	MD1-91	Crystallization kit (test tubes, 10mL per condition) used in LMB20
LMB crystallization screen™	Molecular Dimensions Ltd	MD1-98	Crystallization kit (test tubes, 10mL per condition) used in LMB21
Additive screens			
HT additive screen	Hampton Research	HR2-138	Frozen in 96-well deepwell block (1 mL per well).
MORPHEUS® additive screen	Molecular Dimensions Ltd	MD1-93-500	Frozen in 96-well deepwell block (500 µL per well).
ANGSTROM additive screen™	Molecular Dimensions Ltd	MD1-100	Frozen in 96-well deepwell block (1 mL per well).
MORPHEUS® additive screen	Molecular Dimensions Ltd	MD1-93	Frozen in 96-well cell culture Costar® plate with V-shaped wells (100 µL per well).
ANGSTROM additive screen™	Molecular Dimensions Ltd	MD1-100-FX	Frozen in 96-well cell culture Costar® plate with V-shaped well (100 µL per well).
HIPPOCRATES additive screen	Molecular Dimensions Ltd	n/a	48 single additives (drug compounds found in MORPHEUS® III).
Other consumables			
96-well MRC 2-drop plate	Swissci	MRC 96T-UVP	Sitting-drop, vapor diffusion plate. Reservoir recommended volume: 80 µL. Range of useful droplet volumes: 10-1000 nL. UV transmissible.
48-well MRC 1-drop plate ('MAXI plate')	Swissci	MMX01-UVP	Sitting-drop, vapor diffusion plate for scale-up/optimization. Reservoir recommended volume: 200 µL. Range of useful droplet volumes: 0.1-10 µL. UV transmissible.
MRC hanging drop seal	Swissci	n/a	Hanging-drop, compatible with both MRC vapor diffusion plates

			(MRC 96T-UVP and MMX01-UVP). UV and X-ray transmissible.
Adhesive sealing tape	Hampton Research	HR4-50	3-inch wide Duck® HD Clear™ for sealer and manual sealing.
Adhesive aluminium sheet	Beckman Coulter	538619	Used to reseal additive screens.
Ink cartridge	Markem-Imaje	9651	System 1 (inkjet printer).
Solvent cartridge	Markem-Imaje	8652	System 1 (inkjet printer).
50 µL tips	Hamilton	235947	System 2 (STAR™ liquid handler). Box of 6 sets with 1920 x CO-RE™ tips in disposable stacks.
Reagent container	Hamilton	194052	Used to dispense a condition into plate(s) during additive screening protocols.
PCR plate	Thermo Scientific™	AB-2150	System 2 (contains protein to be transfer to the Mosquito®). Abgene Diamond ultra, 384 V-shaped wells.
microsyringes	TTP Labtech	4150-03020	Spool of 26,000 microsyringes for the Mosquito® nanoliter dispenser (9mm spacing).
strip-holder block	TTP Labtech	3019-05013	SSB device for the Mosquito® strips, aka '4-way Reagent Holder'.
2 µL 8-well strip	TTP Labtech	4150-03110	Contains protein on the deck of the Mosquito®. Box of 40 strips, max. vol. in well is 3.2 µL.
5 µL 8-well strip	TTP Labtech	4150-03100	Contains protein on the deck of the Mosquito®. Box of 40 strips, max. vol. in well is 7.5 µL.
5 mL syringes	TTP Labtech	4150-07100	Syringe body and piston for the Dragonfly® liquid handler. Pack of 100.
Troughs/Reservoirs	TTP Labtech	4150-07103	Contains stock solutions on the deck of the Dragonfly®. Pack of 50.
Orbital microplate shaker	CamLab Limited	n/a	Variomag® for mixing conditions in a single plate (0-2000 rpm).
Microplate mixer	TTP Labtech	3121-01015	MxOne. Mixing condition in a single plate with 96 vibrating pins.