

Biomedical Research Cooperations with African Partner Institutions

National Biobanking Symposium 2024
Berlin



Research Cooperations with African partners



**KCMC
Ghana**



South Africa

**JU & StPH
Ethiopia**

**UVRI
Uganda**

**NIMR-MMRC
Tanzania**

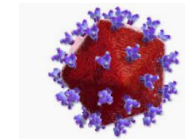
**COM
Malawi**

**INS,
Mozambique**

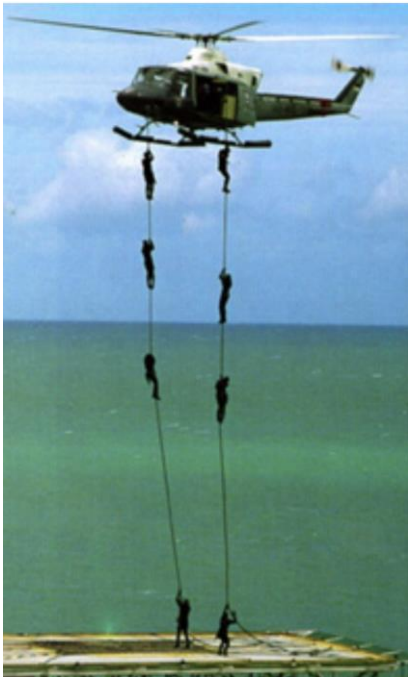


Biomedical Research Objectives in African Countries

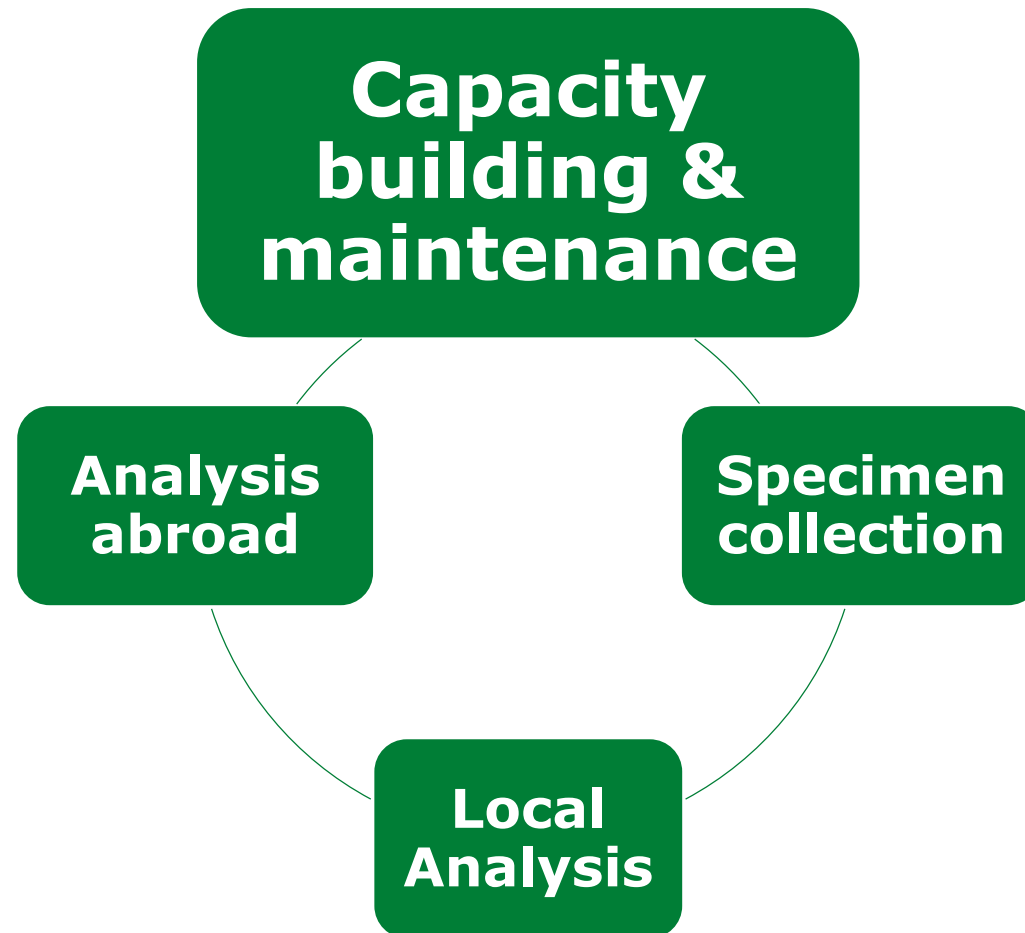
- Observational and diagnostic clinical studies for diseases more prevalent or endemic in Africa
- Conduct of international clinical trials
- Characterisation of Pathogens and Vectors
- Product development:
 - Diagnostic Biomarker signatures
 - Isolation of potent monoclonal antibodies against HIV
- Capacity Development for Research and Health



Politics of Biomedical Research Cooperations with Low-Income Countries



Helicopter Science versus strong engagement and ownership of research partners in LMIC countries



Laboratory Capacity building and maintenance

- Biological Specimen processing and Biobanking Capacity.
- Accurate diagnostic processes to identify & classify human volunteers of interest
- What else make sense?
 - Which types of analysis can be done at the site?
 - Instrument maintenance costs?
 - Who pays the bill?
 - What analysis/processes better to be done external?
 - Complementarity? Get the most out of a study specimen
- Continuous support of training scientists, clinicians and technicians

Laboratory Capacity building and maintenance

- Adequate freezers and racks
- Cryopreservation of viable cells? Reliable source of liquid nitrogen (or -150°C freezers)
- Temperature monitoring documentation system
- Biobanking documentation system(s) and LIMS
- Stable power supply (Powerful generators...)
- Quality management system, including proficiency testing

Functional logistics of reagents, Instruments and Maintenance is essential



FOOD, I

ON AND

To: JIMMA UNIVERSITY

Addis Ababa
08/15/2023 17:14:42

It is hereby certified that the
approved your Pre Import Pe

General Information

Approval Date : 08/15/20
Application Number : 15
Total Price : 5,400.00
Expiry Date : 08/15/2024
Currency : Euro
Performa Invoice Numb
10.08.2023.001

Please use the above applicatio

This certificate only valid if the

f Ethiopia (FMHACA) has
of the attached contract.

Instruction : By Air
: Bole International

Payment : Donation
hin 30 days after receipt
ation to Jimma university

electronically generated certificate from eRIS

- Instrument and reagent import can be complex and time consuming due to import restrictions.
- Donation letter with all prices
- Local agents contracted by African partner perform pre-import permit
- Import time lines unpredictable
- Reliable and Fast: Bring reagents with personal luggage. Particularly for temperature sensitive reagents
- IATA restrictions for dangerous goods, eg dry Ice, or harzadous compounds....

Lab Capacity building at the Mbeya Medical Research Center in Tanzania



COLLEGE of AMERICAN
PATHOLOGISTS

CERTIFICATE OF ACCREDITATION

**NIMR Mbeya Medical Research Center
Main Laboratory
Mbeya, Tanzania
Issa Sabi, MD, Mmed**

CAP Number: 7193660
AU-ID: 1441048

The organization named above meets all applicable standards for accreditation and is hereby accredited by the College of American Pathologists' Laboratory Accreditation Program. Reinspection should occur prior to **May 31, 2023** to maintain accreditation.

Accreditation does not automatically survive a change in director, ownership, or location and assumes that all interim requirements are met.

Kathleen G. Beavis, MD, Accreditation Committee Chair

Emily Volk, MD, FCAP, President, College of American Pathologists



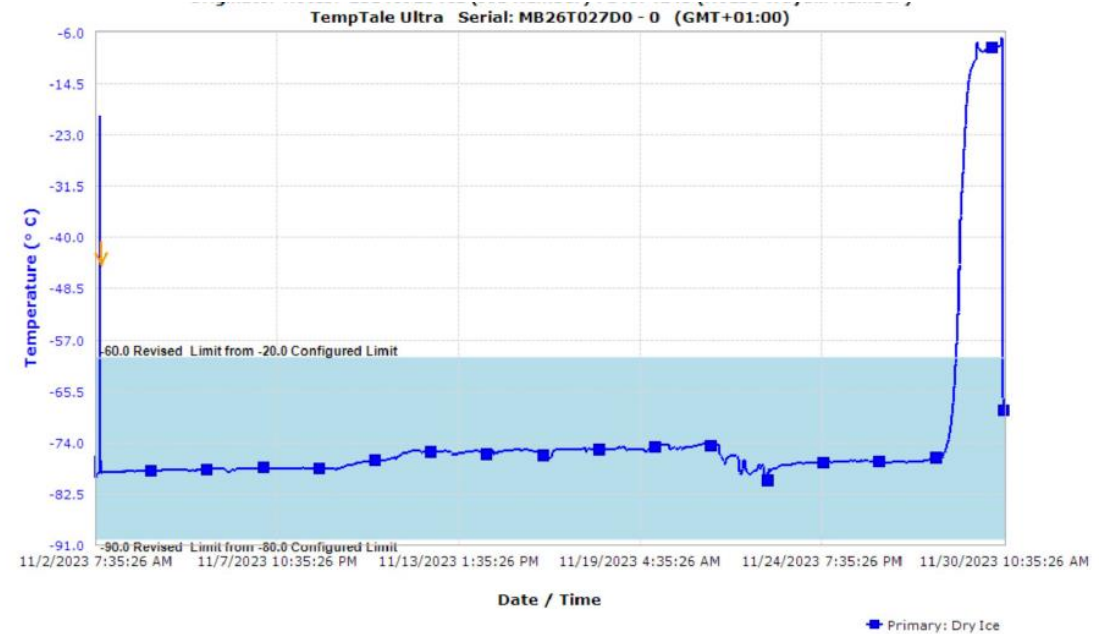
International Sample logistics

	A	B	C	D	E	F	G	H
0		3. Scan aliquot label;						
1		4. Repeat step 2-4 for remaining aliquot vials (if applicable)						
2		5. Quick - Remove appropriate cryobox from Freezer and add the new vials according to what you have documented in "Occupancy Layout"						
3		6. Quick - as fast as possible - return Box to Freezer within 2 minutes to avoid thawing samples already located in Cryobox						
4								
5	Site	03 - NIMR-MMRC						<- down down list (click)
6	Sample Type	PAXgene - LMU						
7	Visit	All Visits						
8	Box Number	Box Number 10						
9	First sample in	15. Oct 20						DD-MON-YYYY (e.g. 1
0	Last sample in	21. Dec 20						DD-MON-YYYY (e.g. 1
1	Freezer ID	SHIPPED						TEXTformat
2	Box Position	SHIPPED						TEXTformat
3								
4	place cursor in cell, scan sample label barcode with handheld scanner, which overwrites the position number (1-49) with barcode (e.g. RP2003A0111006)							
5								
6	BOX Sample Position Occupancy	1	2	3	4	5	6	7
7		Box Number 10						
8	A	RP3171R0110	RP3175Z0110	RP3167M0210	RP3174W0110	RP3176A0110	RP3144A0310	RP3168N0210
9	B	RP3172S0110	RP3173T0110	RP3138Q0310	RP3146O0310	RP3177B0110	RP3178D0110	RP3141T0310
0	C	RP3142W0310	RP3169P0210	RP3170Q0210	RP3179F0110	RP3180G0110	RP3181H0110	RP3172S0210
1	D	RP3173T0210	RP3150K0310	RP3174W0210	RP3175Z0210	RP3182K0110	RP3183M0110	RP3158W0310
2	E	RP3184N0110	RP3185P0110	RP3186Q0110	RP3187R0110	RP3178D0210	RP3179F0210	RP3177B0210
3	F	RP3126W0410	RP3180G0210	RP3188S0110	RP3167M0310	RP3163F0310	RP3189T0110	RP3181H0210
4	G	RP3182K0210	RP3183M0210	RP3190W0110	RP3184N0210	RP3185P0210	RP3186Q0210	RP3191Z0110
5								
6	BOX Sample Position Layout	1	2	3	4	5	6	7
7	do not edit, is just for reference	Box Number 10						
8	A	1	2	3	4	5	6	7
9	B	8	9	10	11	12	13	14
0	C	15	16	17	18	19	20	21
1	D	22	23	24	25	26	27	28
2	E	29	30	31	32	33	34	35
3	F	36	37	38	39	40	41	42
4	G	43	44	45	46	47	48	49
5								
6								

- Study protocol approval
- Material and Data Transfer Agreements
- Sample processing, cryopreservation,
- Ideally digital bar code scanner based documentation
- Import permit for shipped specimen
- Cryo-Shipping via specialized Courier
- (typically provide Dry Ice, Dry Shipper, Liquid Nitrogen)
- ! Temperature trackers !
- Import custom pre-clearance in Germany
- Hand over of samples from Logistics Company
- Integration of samples into own biorepository
- Downstream research activities



Things to consider: Sample logistics



- Temperature tracking is essential
- What is the analyte stability ?
- Quality check for "older" Dry shippers before usage
- Costs of logistics have substantially increased with onset Corona Epidemic

Thank you for listening

