Development for Easy to Use and Affordable Biomarkers as Diagnostics for Types II and III Diseases

Plan of Action, January -October 2016

	Key Activity	*J*	*F*	*M*	*A*	*M*	*J*	*J*	*A*	*S*	*O*	*Lead Partner*
1.	Preparatory											
	1.1. Signing MoU			X								ANDI/All
	1.2. Transfer first tranche				X							ANDI
	1.3. Draft and finalize SoPs for specimen collection					X	X					UoL
	1.4. Obtain IRB Approval						X	X				All
	1.5. Platform for databank							X				All
	1.6. Identification of site and personnel for data collection						X	X				All
2.	Development of Protein Microarrays containing 750-800 selected antigens											NIPD
	2.1. Update existing database of genes, proteins and OMICS					X	X	X				NIPD
	2.2. Development of Protein Microarrays for 150 target genes for each of						X	X				NIPD
	A) Plasmodium vivax antigens							X	X			NIPD
	B) Plasmodium falciparum antigens							X	X			NIPD
	C) S. Japonicum antigens (Worm and eggs from TBRI)							X	X			NIPD
	D) S. Mansoni antigens (Worm and eggs from TBRI)							X	X			NIPD
3.	Probe well characterized infected human sera from China and Africa and identify serodiagnostic antigens											NIPD
	3.1. Develop or update existing database of specimens							X	X			NIPD
	3.2. Collection of specimens for							X	X			
	A) P. Falciparum											
	A1) 100 specimens from China							X	X			NIPD
	A2) 50 specimens from Nigeria							X	X			UoL
	A3) 50 specimens from Kenya							X	X			KEMRI
	B) P. Falciparum and Vivax co-infection											
	B1) 50 specimens from China							X	X			NIPD
	B2) 25 specimens from Nigeria							X	X			UoL
	B3) 25 specimens from Kenya							X	X			KEMRI

	Key Activity	J	F	M	A	M	J	J	A	S	O	Lead Partner
	C) Other Malaria species							X	X			
	C1) 50 specimens from China							X	X			NIPD
	C2) specimens from Nigeria							X	X			UoL
	C3) specimens from Kenya							X	X			KEMRI
	D) Healthy Subjects											
	D1) 50 specimens from P. Falciparum endemic areas in China							X	X			NIPD
	D2) 25 specimens from Nigeria P. Falciparum endemic areas in Nigeria							X	X			UoL
	D3) 25 specimens from Kenya P. Falciparum endemic areas in Kenya							X	X			KEMRI
	D4) 50 specimens from P. Vivax endemic areas in China							X	X			NIPD
	D5) 25 specimens from P. Vivax endemic areas in Nigeria							X	X			UoL
	D6) 25 specimens from P. Vivax endemic areas in Kenya							X	X			KEMRI
	E) S. Mansoni											
	E1) 100 specimens from China							X	X			NIPD
	E2) 50 specimens from Nigeria							X	X			UoL
	E3) 50 specimens from Kenya							X	X			KEMRI
	F) S. Hematobium											
	F1) 100 specimens from China							X	X			NIPD
	F2) 50 specimens from Nigeria							X	X			UoL
	F3) 50 specimens from Kenya							X	X			KEMRI
	G) S. Japonicum											
	G1) 100 specimens from China							X	X			NIPD
	H) Mansoni and Hematobium co-infection											
	H1) 100 specimens from China							X	X			NIPD
	H2) 50 specimens from Nigeria							X	X			UoL
	H3) 50 specimens from Kenya							X	X			KEMRII
	I) Healthy Subjects											
	I1) 50 specimens from S. Japonicum endemic areas in China							X	X			NIPD
	I2) 50 Specimens from S. Mansoni endemic areas in China							X	X			NIPD
	I3) 25 specimens from S. Mansoni endemic areas in Nigeria							X	X			UoL
	I4) 25 specimens from S. Mansoni endemic areas in Kenya							X	X			KEMRI
	I5) 25 specimens from S. Mansoni endemic areas in Egypt							X	X			TBRI

	Key Activity	*J*	*F*	*M*	*A*	*M*	*J*	*J*	*A*	*S*	*O*	*Lead Partner*
	I6) 50 specimens from S. Hematobium endemic areas in China							X	X			NIPD
	I7) 25 specimens from S. Hematobium endemic areas in Nigeria							X	X			UoL
	I8) 25 specimens from S. Hematobium endemic areas in Kenya							X	X			KEMRI
	I9) 25 specimens from S. Hematobium endemic areas in Egypt							X	X			TBRI
4	Advancement of work on the development of the monoclonal antibody for a novel schistosomiasis diagnosis											
	4.1. Scaling up of anti-S. Mansoni tegumental worm antigen (TWA) MAbs							X	X			TBRI
	4.2. Purification and conjugation of MAbs with horse radish peroxidase enzyme to act as antigen detecting antibodies, and Labeling of Gold nanoparticles with coating, and antigen detecting MAbs							X	X			TBRI
	4.3. Determination of the optimum working concentration of nanoparticles labeled coating and antigen detecting MAbs in sandwich ELISA.							X	X			TBRI
	4.4. Test applicability of diagnostics in urine? and saliva specimens							X	X			TBRI
5	Knowledge and technology transfer											
	4.1. Fellowship to 4 African candidates from participating institutions							X	X			NIPD
	4.2. Two Chinese Professors work with TBRI team on schistosomiasis capacity enhancement in Egypt									X		TBRI
	4.3. Two Chinese Professors to work KEMRI and UoL on malaria capacity enhancement									X		KEMRI
6.	Procurement											
	a. Deep freezer for sera bank									X		KEMRI
	b. Lab reagents and consumables									X		KEMRI
7.	Development of a sera bank								X	X	X	All
8.	Planning, monitoring and reporting											
	8.1. Technical meetings among project partners		X					X				ANDI
	8.2. Quarterly progress report									X		All
	8.3. Report (field evaluation)										X	All