

Assay	Assay step	Item	Example vendor	Example catalog #	Item size	Total cost	Cost per 96-well plate	Cost per mosquito	Cost to assay mosquito for <i>P. falciparum</i> , <i>P. vivax210</i> and <i>P. vivax247</i> cs-protein	Notes		
csELISA	Mosquito preparation	Kontes® grinding tube	Fisher Scientific	05-408-121	500	\$63.70	\$12.23	\$0.13	\$0.52			
	<i>P. falciparum</i> csELISA	96-well ELISA plate	Fisher Scientific	07-200-99	100	\$288.50	\$2.89	\$0.03				
		ABTS®2-component peroxidase substrate	Seracare	5120-0033	2.7L	\$685.00	\$2.54	\$0.03		1350mL each of component A and B. 5mL each component used per 96-well plate = 270 plates per 2.7mL kit One pipette tip per sample		
	<i>P. vivax210</i> csELISA	200µl pipette tip	Fisher Scientific	02-707-018	960	\$70.00	\$7.00	\$0.07				
		96-well ELISA plate	Fisher Scientific	07-200-99	100	\$288.50	\$2.89	\$0.03		1350mL each of component A and B. 5mL each component used per 96-well plate = 270 plates per 2.7mL kit One pipette tip per sample		
	<i>P. vivax247</i> csELISA	ABTS®2-component peroxidase substrate	Seracare	5120-0033	2.7L	\$685.00	\$2.54	\$0.03		1350mL each of component A and B. 5mL each component used per 96-well plate = 270 plates per 2.7mL kit One pipette tip per sample		
		200µl pipette tip	Fisher Scientific	02-707-018	960	\$70.00	\$7.00	\$0.07		1350mL each of component A and B. 5mL each component used per 96-well plate = 270 plates per 2.7mL kit One pipette tip per sample		
										Single analyte cost	\$0.26	Mosquito preparation plus <i>P. falciparum</i> , <i>P. vivax210</i> OR <i>P. vivax247</i> csELISA
	csMBA	<i>P. falciparum</i> csMBA antibody preparation	Bio-Plex™ COOH bead	Bio-Rad	171506020	1mL	\$451.00	\$4.51		\$0.05	\$0.71	Approximately 100 plates per tube of COOH beads at 10µl beads per 96-well plate
			xMAP® antibody coupling kit	Luminex	40-50016	1 kit	\$269.33	\$0.67		\$0.01		Kit sufficient for 4 tubes of 1mL microspheres beads. 1mL beads = 100 plates at 10µL beads per 96-well plate
<i>P. vivax210</i> csMBA antibody preparation		EZ-link™ sulfo-NHS-biotin, no-weigh™	Fisher Scientific	PIA39256	10x1mg	\$148.00	\$0.04	\$0.0004	267.9ng sulfo-NHS-biotin per µl resuspended antibody = 3733µl of antibody labelled per 1mg No-Weigh™ tube. 10µl labeled antibody per 96-well plate = approx 370 plates			
		Bio-Plex™ COOH bead	Bio-Rad	171506018	1mL	\$451.00	\$4.51	\$0.05	Approximately 100 plates per tube of COOH beads at 10µl beads per 96-well plate			
<i>P. vivax247</i> csMBA antibody preparation		xMAP® antibody coupling kit	Luminex	40-50016	1 kit	\$269.33	\$0.67	\$0.01	Kit sufficient for 4 tubes of 1mL microspheres beads. 1mL beads = 100 plates at 10µL beads per 96-well plate			
		EZ-link™ sulfo-NHS-biotin, no-weigh™	Fisher Scientific	PIA39256	10x1mg	\$148.00	\$0.04	\$0.0004	267.9ng sulfo-NHS-biotin per µl resuspended antibody = 3733µl of antibody labelled per 1mg No-Weigh™ tube. 10µl labeled antibody per 96-well plate = approx 370 plates			
Mosquito preparation		Bio-Plex™ COOH bead	Bio-Rad	171506024	1mL	\$451.00	\$4.51	\$0.05	Approximately 100 plates per tube of COOH beads at 10µl beads per 96-well plate			
		xMAP® antibody coupling kit	Luminex	40-50016	1 kit	\$269.33	\$0.67	\$0.01	Kit sufficient for 4 tubes of 1mL microspheres beads. 1mL beads = 100 plates at 10µL beads per 96-well plate			
<i>P. falciparum</i> , <i>P. vivax210</i> and/or <i>P. vivax247</i> csMBA		EZ-link™ sulfo-NHS-biotin, no-weigh™	Fisher Scientific	PIA39256	10x1mg	\$148.00	\$0.04	\$0.0004	267.9ng sulfo-NHS-biotin per µl resuspended antibody = 3733µl of antibody labelled per 1mg No-Weigh™ tube. 10µl labeled antibody per 96-well plate = approx 370 plates			
		Kontes® grinding tube	Fisher Scientific	05-408-121	500	\$63.70	\$12.23	\$0.13				
	96-well assay plate	Millipore	MADVN6550	50	\$1,140.00	\$22.80	\$0.24					
	Streptavidin, R-Phycocerythrin conjugate	Fisher Scientific	S866A	1mL	\$331.00	\$4.97	\$0.05	15 µL per 96-well plate				
	200µl pipette tip	Fisher Scientific	02-707-018	960	\$70.00	\$7.00	\$0.07	One pipette tip per sample				
	Bio-Plex™ sheath fluid	Bio-Rad	171000055	20L	\$75.00	\$3.75	\$0.04	Approximately 1L used per 96-well plate				
								Single analyte cost	\$0.59	Mosquito preparation plus <i>P. falciparum</i> , <i>P. vivax210</i> OR <i>P. vivax247</i> antibody preparation plus csMBA		

Additional file 3. Cost analysis of consumables used in the circumsporozoite (cs) enzyme-linked immunosorbent assay (ELISA) and cs multiplex-bead assay (MBA) for assessing three analytes (*Plasmodium falciparum*, *P. vivax210* and *P. vivax247*) or a single analyte.