Supporting information

Gold-based paper for antigen detection of monkeypox virus

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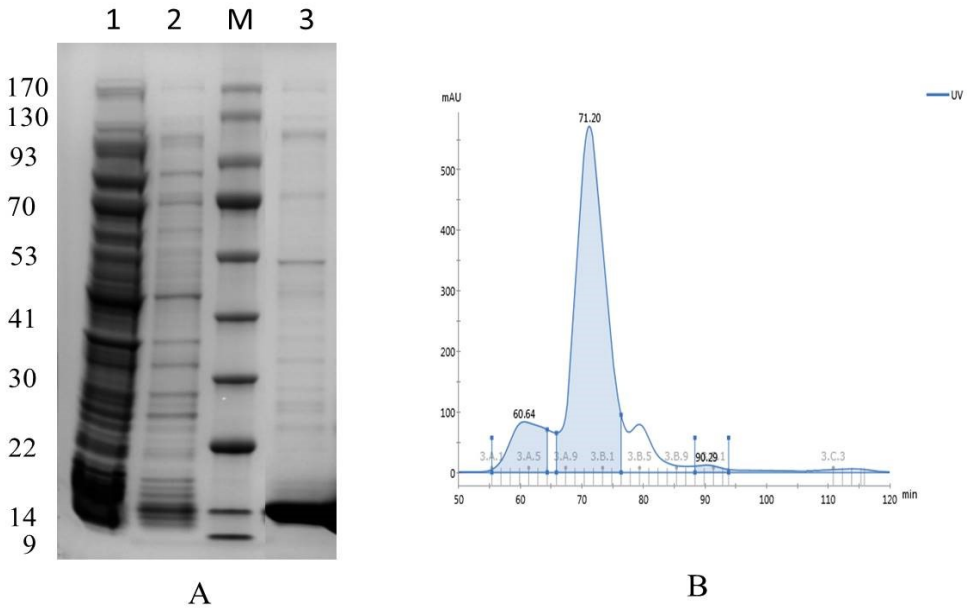

Fig. S1. Soluble expression of recombinant A29 protein. (A): M: The molecular weight standard of protein. 1: Supernatant induced at 37℃. 2: Precipitation induced at 37℃. 3: Ni^{2+} affinity chromatography purification. (B): gel filtration chromatography purification.

Table S1. Biological properties of MPXV-A29-specific mAbs generated in this study.

mAbs	Isoytpe	ELISA titer
1D6	IgG1	10^{-5}
2D2	IgG1	10^{-6}
3D6	IgG1	10^{-4}
4C7	IgG1	10^{-4}
5D8	IgG1	10^{-5}
6D12	IgG2a	10^{-4}
7C5	IgG1	10^{-6}
8F8	IgG1	10^{-6}
9D8	IgG1	10^{-5}
10F8	IgG1	10^{-4}
11F5	IgG1	10^{-4}
12G7	IgG2b	10^{-6}
13G4	IgG2a	10^{-5}
14F12	IgG1	10^{-5}
15F11	IgG1	10^{-4}
16C4	IgG1	10^{-5}
17C9	IgG1	10^{-6}
18A8	IgG1	10^{-6}
19D11	IgG2a	10^{-5}
20B8	IgG2a	10^{-4}
21B4	IgG1	10^{-5}
22D3	IgG1	10^{-5}
23F3	IgG2b	10^{-6}
24H2	IgG1	10^{-5}
25C1	IgG1	10^{-4}

Table S2. The screening of the matched mAbs against A29 protein by the checkerboard method.

Gold labblled antibodies	Coated antibodies							
	3D6	**5D8**	**7C5**	**8F8**	**14F12**	**15F11**	**20B8**	**25C1**
3D6	-	-	++	-	+	-	-	-
5D8	-	-	+++	-	+	+	+	-
7C5	+	-	+	+	-	-	-	+
8F8	+	-	-	-	-	-	+	-
14F12	-	-	-	-	+	-	-	+
15F11	+	-	-	-	-	-	-	+
20B8	-	-	-	-	-	-	-	+
25C1	++	++	-	-	-	+++	-	+

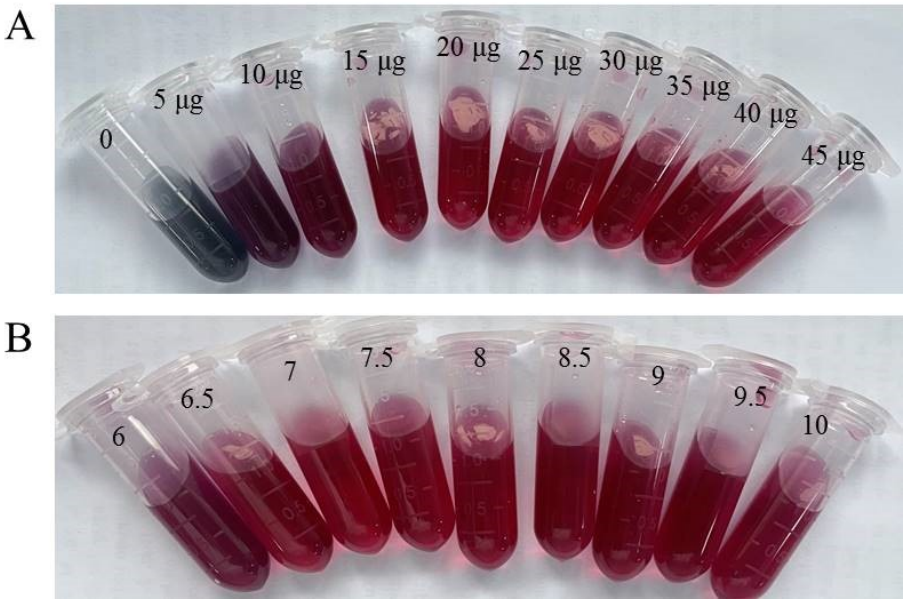

Fig. S2. Optimization of colloidal gold and antibody binding conditions. (A) The state of colloidal gold with different amount of antibody. (B) The state of colloidal gold at different pH value.