

## Test Report of D6310

### Test 1: Requirements for Heating

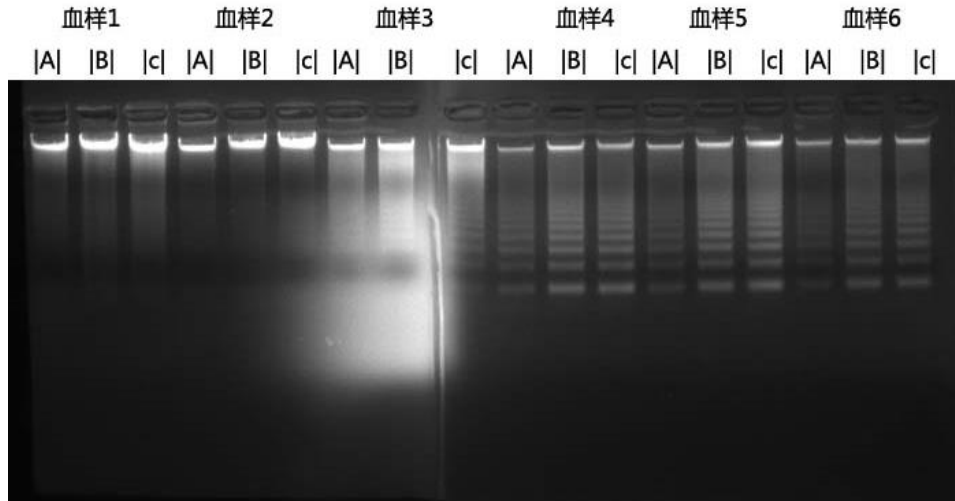
**Procedure:** Extract 4 fresh and 4 long-term frozen blood samples using D6315, D6310 kit and MagMix 32 nucleic acid extractor. Each extraction uses 200µl blood sample.

**Control:** D6315 is used for control. Take 200µl whole blood, add 20µl PK and 200µl Buffer AL, mix well, incubate at 70°C for 10 minutes, and then extract on the machine.

**D6310 Test 1:** Use D6310 for operation. Take 200µl whole blood and 20µl PK into the sample well, and set the temperature of the sample well to 55°C.

**D6310 Test 2:** Use D6310 for operation. Take 200µl whole blood and 20µl PK to the sample well, and set the temperature of the sample well as 'closed'.

Sample	A260/230	A260/280	Conc. (ng/µl)	Yield (µg)	Kit	Condition
200µl Blood 1	1.92	1.82	185.48	18.5	D6315	Control
	2.02	1.84	179.24	17.9	D6310	Sample well heated at 65°C
	1.89	1.79	237.93	23.8	D6310	Sample well without heated
200µl Blood 2	1.63	1.76	96.57	9.7	D6315	Control
	2.04	1.80	78.71	7.9	D6310	Sample well heated at 65°C
	2.00	1.82	98.99	9.9	D6310	Sample well without heated
200µl Blood 3	1.87	1.76	72.40	7.2	D6315	Control
	2.13	1.80	102.48	10.2	D6310	Sample well heated at 65°C
	2.07	1.77	103.64	10.4	D6310	Sample well without heated
200µl Blood 4	1.34	1.81	63.71	6.4	D6315	Control
	1.72	1.81	59.82	6.0	D6310	Sample well heated at 65°C
	2.02	1.78	77.55	7.8	D6310	Sample well without heated
200µl Blood 5	1.38	1.74	49.50	5.0	D6315	Control
	2.01	1.76	80.94	8.1	D6310	Sample well heated at 65°C
	2.26	1.76	83.05	8.3	D6310	Sample well without heated
200µl Blood 6	1.26	1.80	75.31	7.5	D6315	Control
	1.96	1.77	98.48	9.8	D6310	Sample well heated at 65°C
	2.12	1.78	98.63	9.9	D6310	Sample well without heated
200µl Blood 7	1.48	1.77	73.08	7.3	D6315	Control
	1.98	1.78	91.42	9.1	D6310	Sample well heated at 65°C
	2.05	1.78	111.53	11.2	D6310	Sample well without heated
200µl Blood 8	1.24	1.77	54.75	5.5	D6315	Control
	1.71	1.79	59.65	6.0	D6310	Sample well heated at 65°C
	1.95	1.77	64.54	6.5	D6310	Sample well without heated



A: Control    B: Heated    C: Without heated

Results show that Blood DNA extracted by D6310 has A260/280 at 1.78-1.9 and A260/230 at 1.7-2.0, indicating high DNA purity. D6310 can obtain ideal DNA with and without heating from 200 $\mu$ l whole blood sample. Compared with D6315, D6310 can obtain degraded DNA in the sample

## Test 2: Requirements for the Amount of Lysis Buffer

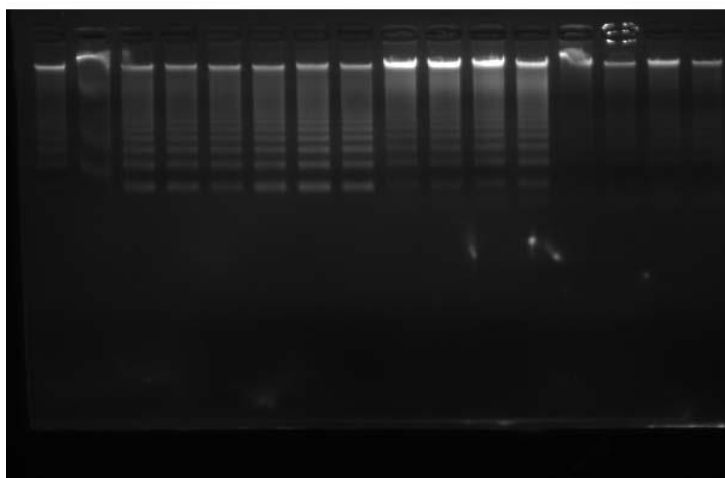
**Procedure:** Extract 4 blood samples using D6310 and MagMix 32 nucleic acid extractor. Each extraction uses 200 $\mu$ l blood sample.

**Test of the Amount of Lysis Buffer:** Use D6310 for operation. Take 200 $\mu$ l whole blood and 20 $\mu$ l PK into the sample well. Add Buffer MLA to the sample well respectively with the amount of 200 $\mu$ l, 300 $\mu$ l, 400 $\mu$ l, and 500 $\mu$ l. Set the temperature of the sample well to 55 $^{\circ}$ C.

Sample	A260/230	A260/280	Conc. (ng/ $\mu$ l)	Yield ( $\mu$ g)	Amount of Lysis Buffer
Blood Sample 1	1.01	1.80	36.87	7.4	200 $\mu$ l
	1.75	1.75	54.85	11.0	300 $\mu$ l
	2.13	1.79	57.40	11.5	400 $\mu$ l
	2.16	1.78	52.16	10.4	500 $\mu$ l
Blood Sample 2	1.64	1.75	57.11	11.4	200 $\mu$ l
	1.81	1.77	70.77	14.2	300 $\mu$ l
	2.31	1.79	76.87	15.4	400 $\mu$ l
	1.32	1.81	72.90	14.6	500 $\mu$ l
Blood Sample 3	1.65	1.85	101.56	20.3	200 $\mu$ l
	1.92	1.83	117.89	23.6	300 $\mu$ l
	2.14	1.88	119.17	23.8	400 $\mu$ l
	2.15	1.96	130.99	26.2	500 $\mu$ l
Blood Sample 4	1.60	1.84	55.79	11.2	200 $\mu$ l
	1.49	1.70	70.14	14.0	300 $\mu$ l
	1.85	2.18	50.95	10.2	400 $\mu$ l
	1.96	2.02	37.93	7.6	500 $\mu$ l

血液免暂停方案不同比例裂解液探究  
200ul人全血样品加入不同量的裂解液MLA提取效果

	血样1		血样2		血样3		血样4	
	200 300 400 500		200 300 400 500		200 300 400 500		200 300 400 500	



Results show that ideal DNA can be obtained under the condition of adding different amounts of lysis buffer to the same blood volume. High quality DNA can be obtained even with equal amounts of lysis buffer MLA. From the perspective of 260/230, adding 1.5 times the volume of MLA is the best. In D6310 or D6310 pre-packaged kit, the sample well uses 500µl Buffer MLA, so the amount of blood sample can vary from 100-400µl, which can all obtain high-quality DNA.

### Test 3: Requirements for the Amount of Protease K

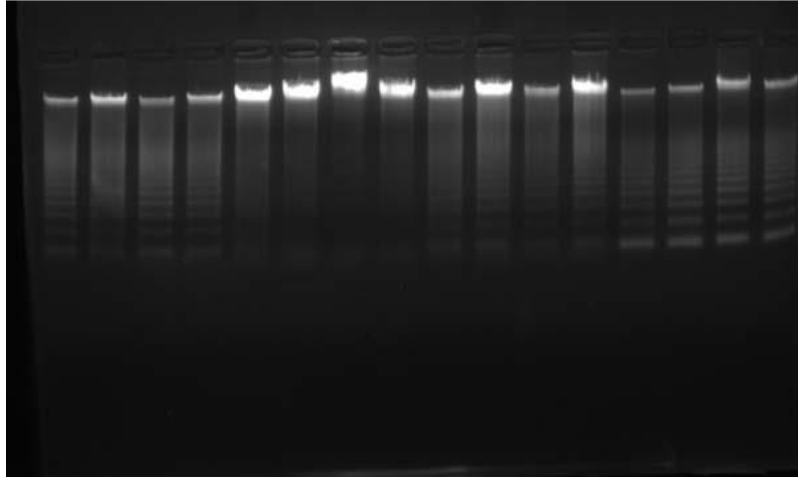
**Procedure:** Extract 4 blood samples using D6310 and MagMix 32 nucleic acid extractor. Each extraction uses 200µl blood sample.

**Test of the Amount of Protease K:** Use D6310 for operation. Take 200µl whole blood and 0~20µl PK into the sample well. Add 500µl Buffer MLA to the sample well. Set the temperature of the sample well to 55°C.

Sample	A260/230	A260/280	Conc. (ng/µl)	Amount of Protease K
200µl Blood 1	1.73	1.80	90.80	0µl
	1.76	1.76	102.16	5µl
	1.98	1.79	88.71	10µl
	0.95	1.72	87.79	20µl
200µl Blood 2	1.51	1.77	92.21	0µl
	1.65	1.75	107.67	5µl
	2.01	1.89	141.39	10µl
	1.78	1.77	89.48	20µl
200µl Blood 3	1.58	1.71	89.31	0µl
	1.76	1.78	100.13	5µl
	1.81	1.80	94.33	10µl
	1.95	1.83	100.73	20µl
200µl Blood 4	1.16	1.59	48.07	0µl
	1.50	1.65	46.68	5µl
	1.85	1.64	65.21	10µl
	1.79	1.61	49.10	20µl

PK用量对血液提取免暂停体系影响  
 200ul人全血样品加入不同量PK对产量的影响

	血样1		血样2		血样3		血样4	
	0ul		5ul		10ul		20ul	
	0ul		5ul		10ul		20ul	
	0ul		5ul		10ul		20ul	



Results show that D6310 is not very sensitive to the amount of Proteinase K added. High-quality DNA can be obtained without adding Proteinase K. Adding Proteinase K is beneficial for improving yield and purity. High quality DNA can be obtained by adding 5-10 $\mu$ l Proteinase K.