

**Table S1:** *Theileria parva* p67 reference sequences

Sequence Name/ID	Accession number	Host of Origin	Geographic origin	p67 allele type	Reference
Muguga	M67476	Cattle	Kilifi - Kenya	1	Nene et al. (1996)
7014	U40703	Buffalo	Kilifi - Kenya	2	Nene et al. (1996)
KNP102_9	JX442247	Buffalo	Kruger National Park- South Africa	3	Sibeko et al. (2010)
KNP102_6	JX442250	Buffalo	Kruger National Park - South Africa	4	Sibeko et al. (2010)
KNPW8_35	JX442249	Buffalo	Kruger National Park - South Africa	3	Sibeko et al. (2010)
KNPW8_48	JX442251	Buffalo	Kruger National Park - South Africa	4	Sibeko et al. (2010)
Marula_7	LK054510	Cattle	Nakuru - Kenya	3	Obara et al. (2015)
Marula_10	LK054513	Cattle	Nakuru - Kenya	1	Obara et al. (2015)
Marula_2	LK054505	Cattle	Nakuru - Kenya	2	Obara et al. (2015)
ILRI-1	KY912962	Cattle	Laikipia - Kenya	1	Sitt et al. (2019)
ILRI-2	KY912963	Buffalo	Laikipia - Kenya	1	Sitt et al. (2019)
ILRI-4	KY912965	Cattle/Buffalo	Laikipia - Kenya	2	Sitt et al. (2019)
ILRI-6	KY912967	Cattle/Buffalo	Laikipia - Kenya	2	Sitt et al. (2019)
ILRI-18	KY912979	Cattle/Buffalo	Laikipia - Kenya	3	Sitt et al. (2019)
ILRI-32	KY912995	Cattle/Buffalo	Laikipia - Kenya	3	Sitt et al. (2019)
UG_NK_3g	MT199341	Cattle	Karamoja - Uganda	1	Mukolwe et al. (2020)
UG_Mbara_ME6	MT199342	Cattle	Mbarara - Uganda	1	Mukolwe et al. (2020)
TZ_TTb5	MT199343	Cattle	Tanga - Tanzania	1	Mukolwe et al. (2020)
TZ_TSb4	MT199344	Cattle	Simanjiro - Tanzania	1	Mukolwe et al. (2020)
Moz_Buf_5c	MT199345	buffalo	Marromeu Game Reserve - Mozambique	1	Mukolwe et al. (2020)
KNP_MN_C89_2	MT199346	Cattle	Bushbuckridge (Mnisi area) - South Africa	1	Mukolwe et al. (2020)
KZN_HIP_B3	MT199347	Buffalo	Hluhluwe-iMfolozi Park - South Africa	1	Mukolwe et al. (2020)
TZ_TE1	MT199350	Buffalo	Tanga - Tanzania	2	Mukolwe et al. (2020)
Moz_Buf_10	MT199348	Buffalo	Marromeu Game Reserve - Mozambique	2	Mukolwe et al. (2020)
KZN_HIP_E6	MT199349	Buffalo	Hluhluwe-iMfolozi Park - South Africa	2	Mukolwe et al. (2020)
TZ_TA1	MT199356	Buffalo	Tanga - Tanzania	2	Mukolwe et al. (2020)
KNP_MN_F369	MT199354	Cattle	Bushbuckridge (Mnisi area) - South Africa	4	Mukolwe et al. (2020)
TZ_TC3	MT199353	Buffalo	Tanga -Tanzania	3	Mukolwe et al. (2020)
Moz_Buf_9	MT199351	Buffalo	Marromeu Game Reserve - Mozambique	3	Mukolwe et al. (2020)

KNP_MN_C81	MT199352	Cattle	Bushbuckridge (Mnisi area) - South Africa	3	Mukolwe et al. (2020)
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