



Tel: 071 493 21 37
Email: info@ZooOmics.co.za
Physical Address: 525 Justice Mahomed Str, Muckleneuk, Pretoria 0002
Postal Address: PO Box 14356, Hatfield, Pretoria 0028

DNA PROFILE CERTIFICATE

General Information:

Test Animal	
ANIMAL ID/NAME	HK220082
BREED	Bonsmara
SPECIES	Cattle
GENDER	Female
OWNER	Rindro Bonsmaras
LAB. NO	ZOCA2025-91720

DNA Profiling Results:

STR Marker	Allele 1	Allele 2
TGLA227	87	89
BM2113	133	133
TGLA053	172	176
ETH10	211	217
ILSTS011	268	268
SPS113	141	153
RM067	94	98
TGLA126	115	115
TGLA122	Not Detected	
INRA023	202	208

STR Marker	Allele 1	Allele 2
BM1818	266	270
ETH003	117	117
ETH225	140	151
BM1824	182	182
SPS115	248	248
CSRM060	96	100
MGTG4B	135	147
CSSM066	187	189
ILSTS006	288	292

The DNA profile represents the standardised alleles for the 12 International Society for Animal Genetics (ISAG, 2016) recommended markers. These alleles were obtained from STR analysis by capillary electrophoresis. The DNA profile includes additional markers as recommended by the Food and Agriculture Organization of the United Nations (FAO) for routine bovine parentage testing and identification.

Dr Christiaan Labuschagne
Genomics Manager

18 July 2025

Date

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DNA PROFILE CERTIFICATE

General Information:

Test Animal	
ANIMAL ID/NAME	HK220102
BREED	Bonsmara
SPECIES	Cattle
GENDER	Female
OWNER	Rindro Bonsmaras
LAB. NO	ZOCA2025-91722

DNA Profiling Results:

STR Marker	Allele 1	Allele 2
TGLA227	87	87
BM2113	137	139
TGLA053	160	172
ETH10	211	211
ILSTS011	268	268
SPS113	Not Detected	
RM067	90	94
TGLA126	Not Detected	
TGLA122	143	143
INRA023	196	208

STR Marker	Allele 1	Allele 2
BM1818	262	268
ETH003	121	121
ETH225	140	140
BM1824	192	192
SPS115	248	248
CSRM060	100	100
MGTG4B	137	137
CSSM066	187	187
ILSTS006	Not Detected	

The DNA profile represents the standardised alleles for the 12 International Society for Animal Genetics (ISAG, 2016) recommended markers. These alleles were obtained from STR analysis by capillary electrophoresis. The DNA profile includes additional markers as recommended by the Food and Agriculture Organization of the United Nations (FAO) for routine bovine parentage testing and identification.

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DNA PROFILE CERTIFICATE

General Information:

Test Animal	
ANIMAL ID/NAME	HK220100
BREED	Bonsmara
SPECIES	Cattle
GENDER	Female
OWNER	Rindro Bonsmaras
LAB. NO	ZOCA2025-91721

DNA Profiling Results:

STR Marker	Allele 1	Allele 2
TGLA227	89	89
BM2113	129	139
TGLA053	172	176
ETH10	211	219
ILSTS011	268	268
SPS113	Not Detected	
RM067	94	102
TGLA126	Not Detected	
TGLA122	143	151
INRA023	202	214

STR Marker	Allele 1	Allele 2
BM1818	258	266
ETH003	117	121
ETH225	140	140
BM1824	180	192
SPS115	248	248
CSRM060	96	102
MGTG4B	137	137
CSSM066	185	189
ILSTS006	Not Detected	

The DNA profile represents the standardised alleles for the 12 International Society for Animal Genetics (ISAG, 2016) recommended markers. These alleles were obtained from STR analysis by capillary electrophoresis. The DNA profile includes additional markers as recommended by the Food and Agriculture Organization of the United Nations (FAO) for routine bovine parentage testing and identification.

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DNA PROFILE CERTIFICATE

General Information:

Test Animal	
ANIMAL ID/NAME	HK220103
BREED	Bonsmara
SPECIES	Cattle
GENDER	Female
OWNER	Rindro Bonsmaras
LAB. NO	ZOCA2025-91723

DNA Profiling Results:

STR Marker	Allele 1	Allele 2
TGLA227	77	91
BM2113	129	139
TGLA053	166	184
ETH10	217	221
ILSTS011	266	268
SPS113	Not Detected	
RM067	90	94
TGLA126	123	125
TGLA122	145	151
INRA023	208	214

STR Marker	Allele 1	Allele 2
BM1818	258	266
ETH003	121	121
ETH225	140	150
BM1824	188	188
SPS115	248	256
CSRM060	96	100
MGTG4B	137	147
CSSM066	185	187
ILSTS006	Not Detected	

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DNA PROFILE CERTIFICATE

General Information:

Test Animal	
ANIMAL ID/NAME	HK220052
BREED	Bonsmara
SPECIES	Cattle
GENDER	Female
OWNER	Rindro Bonsmaras
LAB. NO	ZOCA2025-91724

DNA Profiling Results:

STR Marker	Allele 1	Allele 2
TGLA227	89	89
BM2113	133	133
TGLA053	176	182
ETH10	211	217
ILSTS011	266	268
SPS113	151	153
RM067	90	92
TGLA126	117	123
TGLA122	143	143
INRA023	200	208

STR Marker	Allele 1	Allele 2
BM1818	262	266
ETH003	117	117
ETH225	140	158
BM1824	182	192
SPS115	248	248
CSRM060	92	96
MG TG4B	147	151
CSSM066	185	197
ILSTS006	Not Detected	

The DNA profile represents the standardised alleles for the 12 International Society for Animal Genetics (ISAG, 2016) recommended markers. These alleles were obtained from STR analysis by capillary electrophoresis. The DNA profile includes additional markers as recommended by the Food and Agriculture Organization of the United Nations (FAO) for routine bovine parentage testing and identification.

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DNA PROFILE CERTIFICATE

General Information:

Test Animal	
ANIMAL ID/NAME	HK220060
BREED	Bonsmara
SPECIES	Cattle
GENDER	Female
OWNER	Rindro Bonsmaras
LAB. NO	ZOCA2025-91725

DNA Profiling Results:

STR Marker	Allele 1	Allele 2
TGLA227	87	89
BM2113	121	129
TGLA053	158	160
ETH10	217	219
ILSTS011	268	268
SPS113	153	153
RM067	90	102
TGLA126	Not Detected	
TGLA122	Not Detected	
INRA023	214	214

STR Marker	Allele 1	Allele 2
BM1818	262	266
ETH003	117	121
ETH225	140	140
BM1824	180	192
SPS115	248	248
CSRM060	92	102
MG TG4B	135	147
CSSM066	185	185
ILSTS006	288	288

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DNA PROFILE CERTIFICATE

General Information:

Test Animal	
ANIMAL ID/NAME	HK240108
BREED	Bonsmara
SPECIES	Cattle
GENDER	Male
OWNER	Rindro Bonsmaras
LAB. NO	ZOCA2025-91726

DNA Profiling Results:

STR Marker	Allele 1	Allele 2
TGLA227	79	89
BM2113	121	137
TGLA053	154	158
ETH10	211	221
ILSTS011	268	268
SPS113	141	153
RM067	90	94
TGLA126	Not Detected	
TGLA122	Not Detected	
INRA023	202	206

STR Marker	Allele 1	Allele 2
BM1818	266	270
ETH003	117	125
ETH225	140	150
BM1824	180	180
SPS115	248	248
CSRM060	100	102
MGTG4B	137	139
CSSM066	185	189
ILSTS006	288	292

The DNA profile represents the standardised alleles for the 12 International Society for Animal Genetics (ISAG, 2016) recommended markers. These alleles were obtained from STR analysis by capillary electrophoresis. The DNA profile includes additional markers as recommended by the Food and Agriculture Organization of the United Nations (FAO) for routine bovine parentage testing and identification.

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DNA PROFILE CERTIFICATE

General Information:

Test Animal	
ANIMAL ID/NAME	HK240058
BREED	Bonsmara
SPECIES	Cattle
GENDER	Male
OWNER	Rindro Bonsmaras
LAB. NO	ZOCA2025-91727

DNA Profiling Results:

STR Marker	Allele 1	Allele 2
TGLA227	77	89
BM2113	133	133
TGLA053	176	176
ETH10	217	217
ILSTS011	266	268
SPS113	139	153
RM067	92	102
TGLA126	115	123
TGLA122	Not Detected	
INRA023	196	208

STR Marker	Allele 1	Allele 2
BM1818	258	258
ETH003	117	117
ETH225	148	158
BM1824	178	180
SPS115	248	248
CSRM060	92	96
MG TG4B	135	147
CSSM066	187	189
ILSTS006	288	294

The DNA profile represents the standardised alleles for the 12 International Society for Animal Genetics (ISAG, 2016) recommended markers. These alleles were obtained from STR analysis by capillary electrophoresis. The DNA profile includes additional markers as recommended by the Food and Agriculture Organization of the United Nations (FAO) for routine bovine parentage testing and identification.

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DNA PROFILE CERTIFICATE

General Information:

Test Animal	
ANIMAL ID/NAME	HK240113
BREED	Bonsmara
SPECIES	Cattle
GENDER	Female
OWNER	Rindro Bonsmaras
LAB. NO	ZOCA2025-91728

DNA Profiling Results:

STR Marker	Allele 1	Allele 2
TGLA227	91	97
BM2113	133	137
TGLA053	154	172
ETH10	217	217
ILSTS011	264	268
SPS113	151	153
RM067	90	102
TGLA126	115	115
TGLA122	Not Detected	
INRA023	196	208

STR Marker	Allele 1	Allele 2
BM1818	262	262
ETH003	117	117
ETH225	140	148
BM1824	182	192
SPS115	248	248
CSRM060	96	100
MGTG4B	139	147
CSSM066	185	189
ILSTS006	292	294

The DNA profile represents the standardised alleles for the 12 International Society for Animal Genetics (ISAG, 2016) recommended markers. These alleles were obtained from STR analysis by capillary electrophoresis. The DNA profile includes additional markers as recommended by the Food and Agriculture Organization of the United Nations (FAO) for routine bovine parentage testing and identification.

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DNA PROFILE CERTIFICATE

General Information:

Test Animal	
ANIMAL ID/NAME	HK240061
BREED	Bonsmara
SPECIES	Cattle
GENDER	Female
OWNER	Rindro Bonsmaras
LAB. NO	ZOCA2025-91729

DNA Profiling Results:

STR Marker	Allele 1	Allele 2
TGLA227	89	93
BM2113	133	139
TGLA053	154	176
ETH10	217	221
ILSTS011	264	268
SPS113	141	153
RM067	90	94
TGLA126	Not Detected	
TGLA122	Not Detected	
INRA023	196	208

STR Marker	Allele 1	Allele 2
BM1818	262	266
ETH003	121	125
ETH225	140	150
BM1824	178	188
SPS115	248	248
CSRM060	96	102
MGTG4B	135	137
CSSM066	187	189
ILSTS006	288	294

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DNA PROFILE CERTIFICATE

General Information:

Test Animal	
ANIMAL ID/NAME	HK240082
BREED	Bonsmara
SPECIES	Cattle
GENDER	Female
OWNER	Rindro Bonsmaras
LAB. NO	ZOCA2025-91730

DNA Profiling Results:

STR Marker	Allele 1	Allele 2
TGLA227	77	89
BM2113	133	133
TGLA053	Not Detected	
ETH10	211	221
ILSTS011	268	268
SPS113	151	153
RM067	92	92
TGLA126	Not Detected	
TGLA122	Not Detected	
INRA023	208	208

STR Marker	Allele 1	Allele 2
BM1818	262	262
ETH003	117	121
ETH225	140	140
BM1824	180	182
SPS115	248	248
CSRM060	96	100
MGTG4B	135	147
CSSM066	187	189
ILSTS006	284	288

The DNA profile represents the standardised alleles for the 12 International Society for Animal Genetics (ISAG, 2016) recommended markers. These alleles were obtained from STR analysis by capillary electrophoresis. The DNA profile includes additional markers as recommended by the Food and Agriculture Organization of the United Nations (FAO) for routine bovine parentage testing and identification.

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DNA PROFILE CERTIFICATE

General Information:

Test Animal	
ANIMAL ID/NAME	HK240088
BREED	Bonsmara
SPECIES	Cattle
GENDER	Female
OWNER	Rindro Bonsmaras
LAB. NO	ZOCA2025-91731

DNA Profiling Results:

STR Marker	Allele 1	Allele 2
TGLA227	77	93
BM2113	121	139
TGLA053	154	176
ETH10	211	217
ILSTS011	266	268
SPS113	153	153
RM067	90	92
TGLA126	Not Detected	
TGLA122	Not Detected	
INRA023	206	214

STR Marker	Allele 1	Allele 2
BM1818	266	270
ETH003	117	125
ETH225	140	150
BM1824	188	188
SPS115	248	248
CSRM060	102	110
MGTG4B	137	147
CSSM066	187	189
ILSTS006	294	296

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DNA PROFILE CERTIFICATE

General Information:

Test Animal	
ANIMAL ID/NAME	HK240101
BREED	Bonsmara
SPECIES	Cattle
GENDER	Female
OWNER	Rindro Bonsmaras
LAB. NO	ZOCA2025-91732

DNA Profiling Results:

STR Marker	Allele 1	Allele 2
TGLA227	87	89
BM2113	121	125
TGLA053	154	176
ETH10	211	215
ILSTS011	264	268
SPS113	141	153
RM067	90	102
TGLA126	117	117
TGLA122	Not Detected	
INRA023	202	208

STR Marker	Allele 1	Allele 2
BM1818	268	270
ETH003	117	125
ETH225	148	150
BM1824	180	182
SPS115	248	248
CSRM060	100	110
MG TG4B	139	139
CSSM066	185	185
ILSTS006	288	296

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DNA PROFILE CERTIFICATE

General Information:

Test Animal	
ANIMAL ID/NAME	HK240105
BREED	Bonsmara
SPECIES	Cattle
GENDER	Female
OWNER	Rindro Bonsmaras
LAB. NO	ZOCA2025-91733

DNA Profiling Results:

STR Marker	Allele 1	Allele 2
TGLA227	89	91
BM2113	133	133
TGLA053	172	184
ETH10	211	221
ILSTS011	266	266
SPS113	141	153
RM067	90	92
TGLA126	Not Detected	
TGLA122	Not Detected	
INRA023	202	214

STR Marker	Allele 1	Allele 2
BM1818	266	266
ETH003	121	125
ETH225	150	151
BM1824	182	192
SPS115	248	248
CSRM060	92	96
MGTG4B	137	137
CSSM066	185	185
ILSTS006	288	292

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DNA PROFILE CERTIFICATE

General Information:

Test Animal	
ANIMAL ID/NAME	HK240064
BREED	Bonsmara
SPECIES	Cattle
GENDER	Female
OWNER	Rindro Bonsmaras
LAB. NO	ZOCA2025-91734

DNA Profiling Results:

STR Marker	Allele 1	Allele 2
TGLA227	89	89
BM2113	133	133
TGLA053	154	184
ETH10	211	211
ILSTS011	268	268
SPS113	141	153
RM067	90	94
TGLA126	115	115
TGLA122	Not Detected	
INRA023	208	214

STR Marker	Allele 1	Allele 2
BM1818	258	268
ETH003	125	125
ETH225	140	151
BM1824	192	192
SPS115	248	248
CSRM060	96	100
MGTG4B	137	147
CSSM066	185	187
ILSTS006	284	294

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DNA PROFILE CERTIFICATE

General Information:

Test Animal	
ANIMAL ID/NAME	HK240103
BREED	Bonsmara
SPECIES	Cattle
GENDER	Female
OWNER	Rindro Bonsmaras
LAB. NO	ZOCA2025-91735

DNA Profiling Results:

STR Marker	Allele 1	Allele 2
TGLA227	87	93
BM2113	121	129
TGLA053	154	166
ETH10	211	217
ILSTS011	264	264
SPS113	153	153
RM067	90	90
TGLA126	Not Detected	
TGLA122	Not Detected	
INRA023	206	214

STR Marker	Allele 1	Allele 2
BM1818	262	270
ETH003	117	121
ETH225	144	150
BM1824	188	192
SPS115	248	248
CSRM060	96	110
MGTG4B	135	139
CSSM066	185	189
ILSTS006	288	296

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