

Overview

Simple
Reaction Setup

Broad
Dynamic Range

Highly Accurate
Quantification

Unparalleled
Sensitivity

Confident
Target Detection

Reliable
Inhibition/
Degradation
Detection

Ordering
Information

Investigator[®] Quantiplex[®] Pro Kit

Quantitative real-time PCR assay with high sensitivity for total human and male DNA



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Straightforward reaction setup

What's in the box?

Number of 20 μ l reactions	200
Reaction Mix	1 x 1.9 ml
Primer Mix	1 x 1.9 ml
Control DNA (50 ng/ μ l)	0.2 ml
QuantiTect® Nucleic Acid Dilution Buffer	1 vial

Preparation of master mix

Component	Volume per 20 μ l reaction	Final concentration
Reaction Mix	9 μ l	1x
Primer Mix	9 μ l	1x
Total volume of master mix	18 μl	–

Preparation of standards

Serial dilution of Control DNA (ng/ μ l)	Control DNA (μ l)	QuantiTect Nucleic Acid Dilution Buffer (μ l)
50	Undiluted DNA	–
18.519	5	130
0.0686	5	130
0.0025	5	130

Cycling parameters

Step	Temperature	Time	Number of cycles	Comment
Initial PCR activation step	95°C	3 min	–	PCR requires an initial incubation at 95°C to activate the DNA polymerase
2-step cycling: Denaturation	95°C	5 s	40	–
Combined annealing/extension	60°C	30 s	–	Perform fluorescence data collection

Accurately quantifies trace amounts of DNA

Overview

Simple Reaction Setup

Broad Dynamic Range

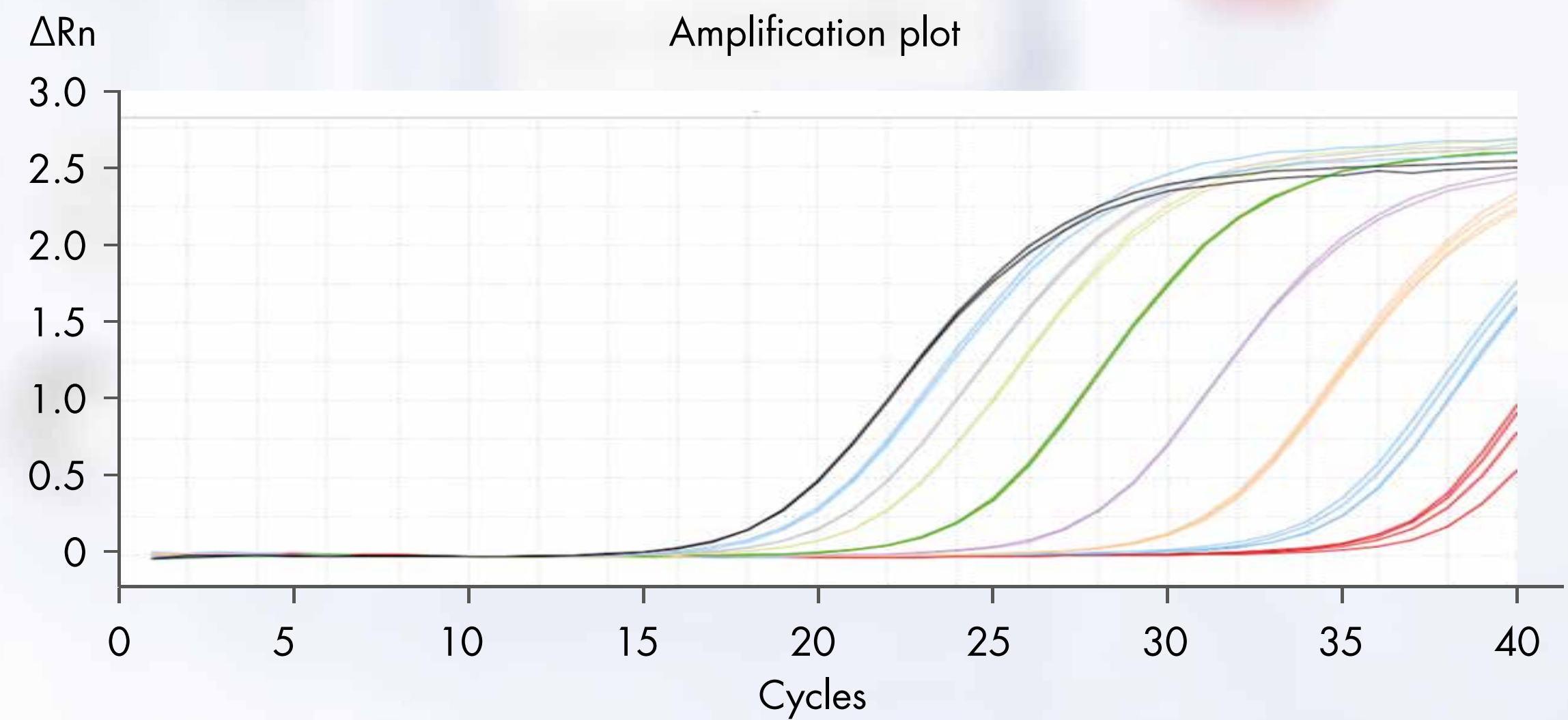
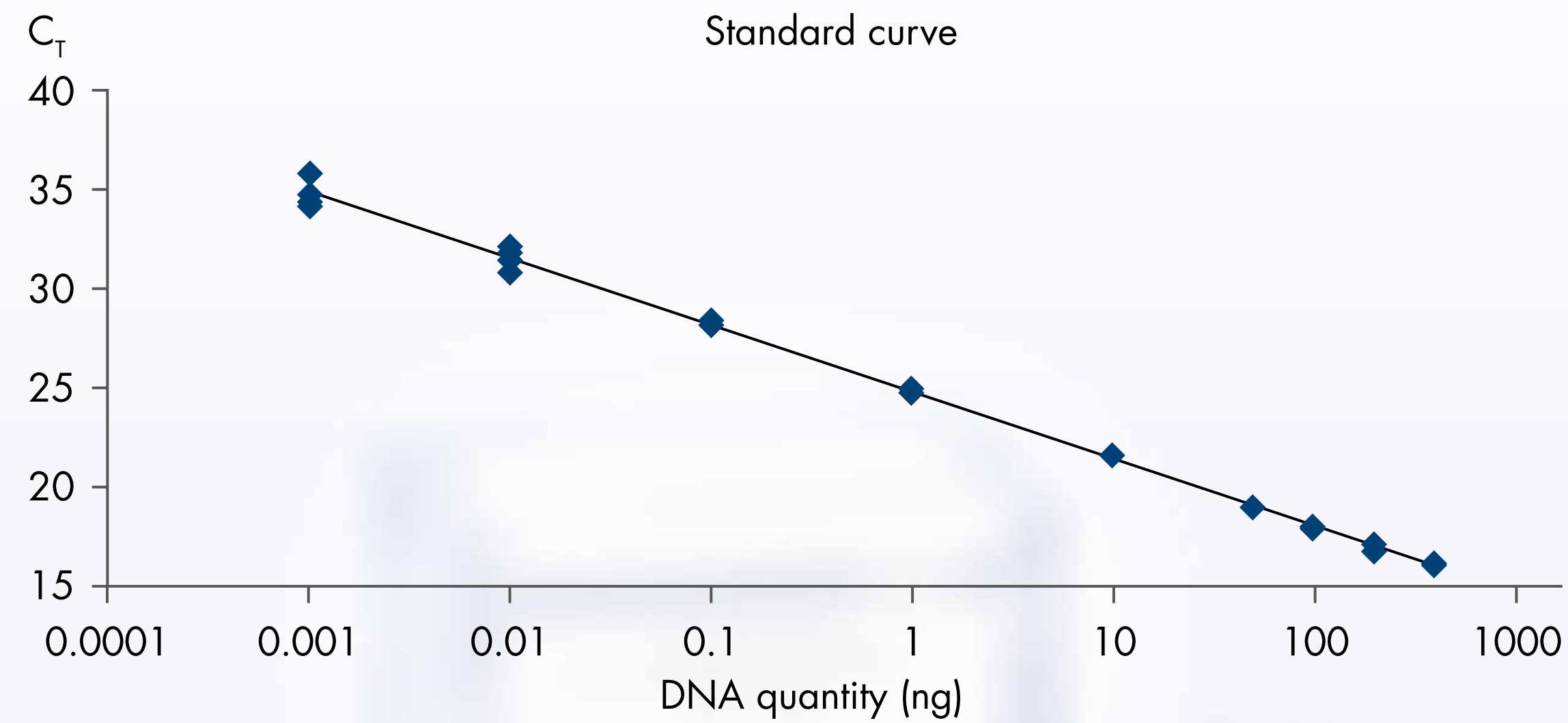
Highly Accurate Quantification

Unparalleled Sensitivity

Confident Target Detection

Reliable Inhibition/Degradation Detection

Ordering Information



Broad dynamic range from 200 ng/μl down to 0.5 pg/μl

Accurately quantifies both human and male DNA

Overview

Simple Reaction Setup

Broad Dynamic Range

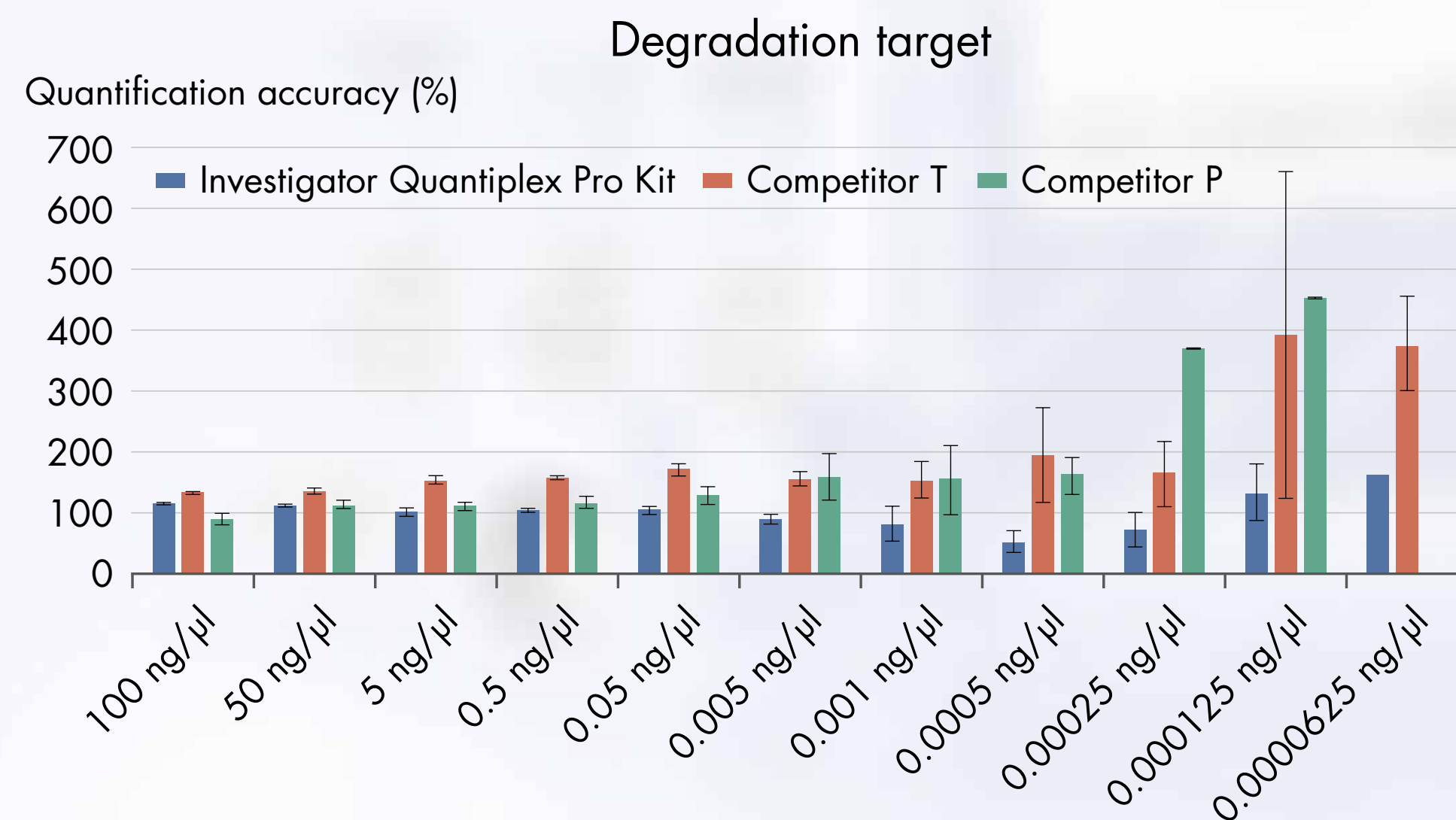
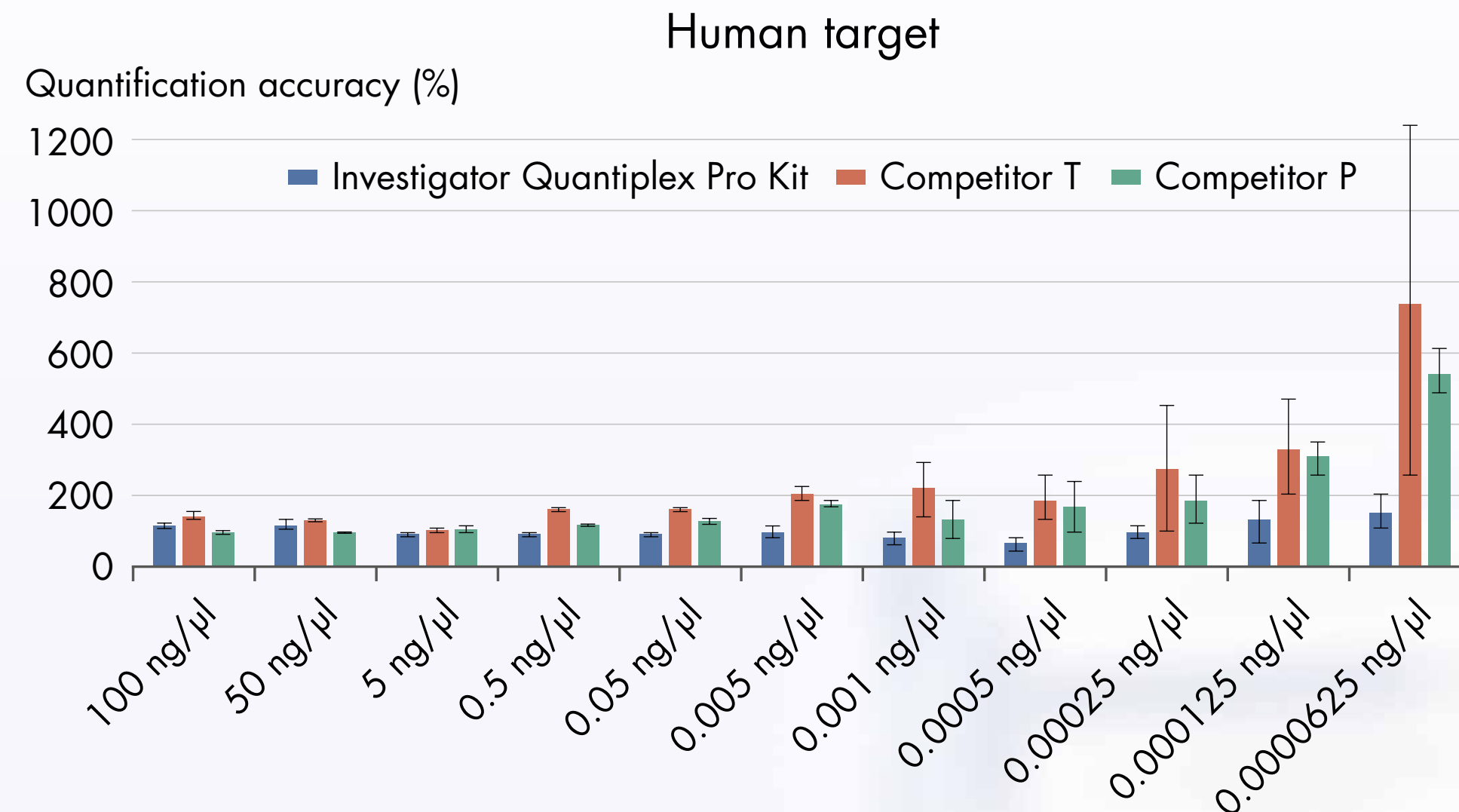
Highly Accurate Quantification

Unparalleled Sensitivity

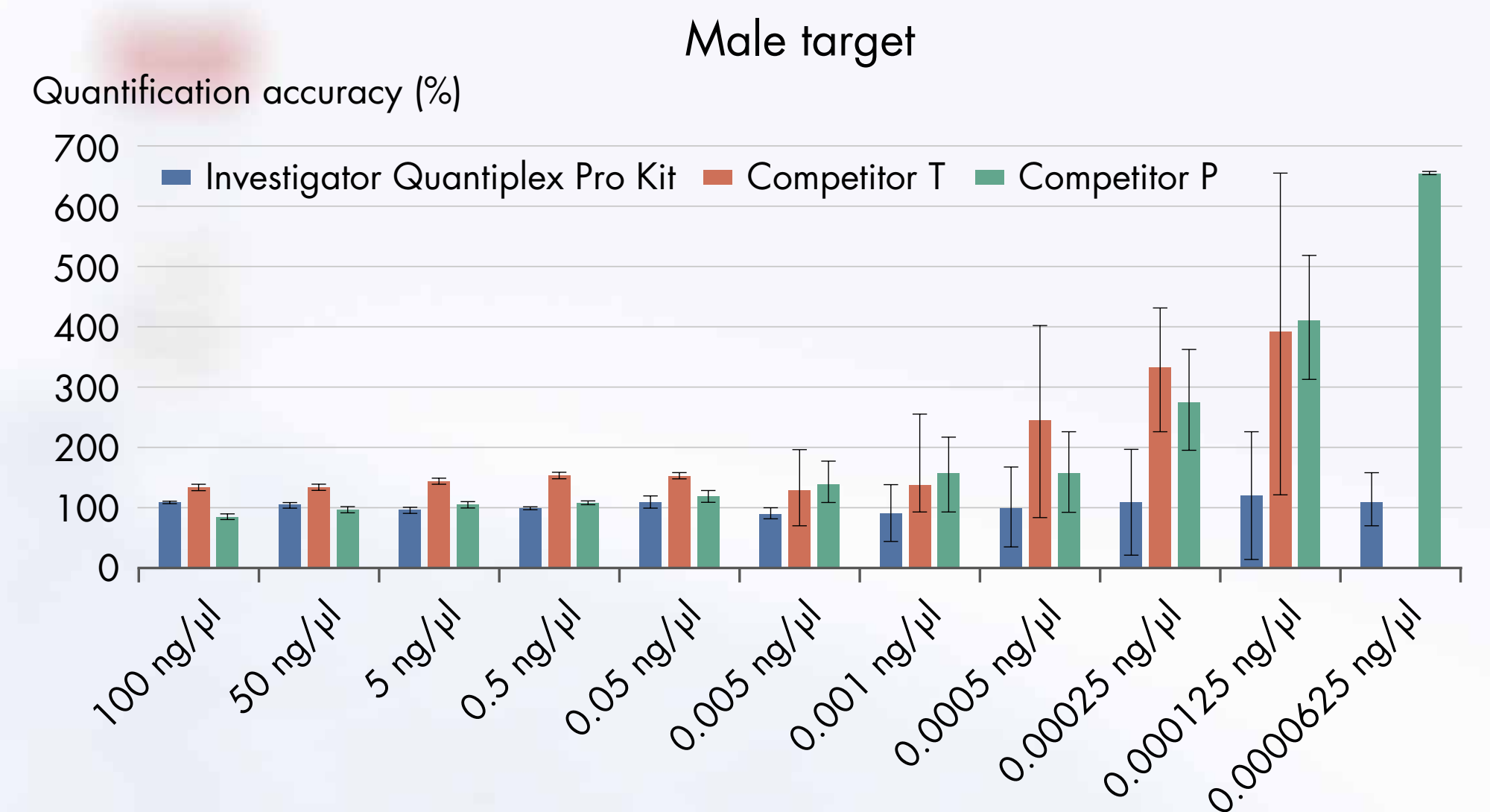
Confident Target Detection

Reliable Inhibition/Degradation Detection

Ordering Information



Template DNA	Replicates	Template DNA	Replicates
100 ng/μl	3	0.001 ng/μl	6
50 ng/μl	3	0.0005 ng/μl	6
5 ng/μl	3	0.00025 ng/μl	6
0.5 ng/μl	3	0.000125 ng/μl	6
0.05 ng/μl	3	0.0000625 ng/μl	6
0.005 ng/μl	3		



Highly informative and precise DNA estimation guarantees first-pass STR PCR success

Quantifies the smallest amounts of male DNA in sexual assault samples – even in a high female DNA background

Overview

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Broad Dynamic Range

Highly Accurate Quantification

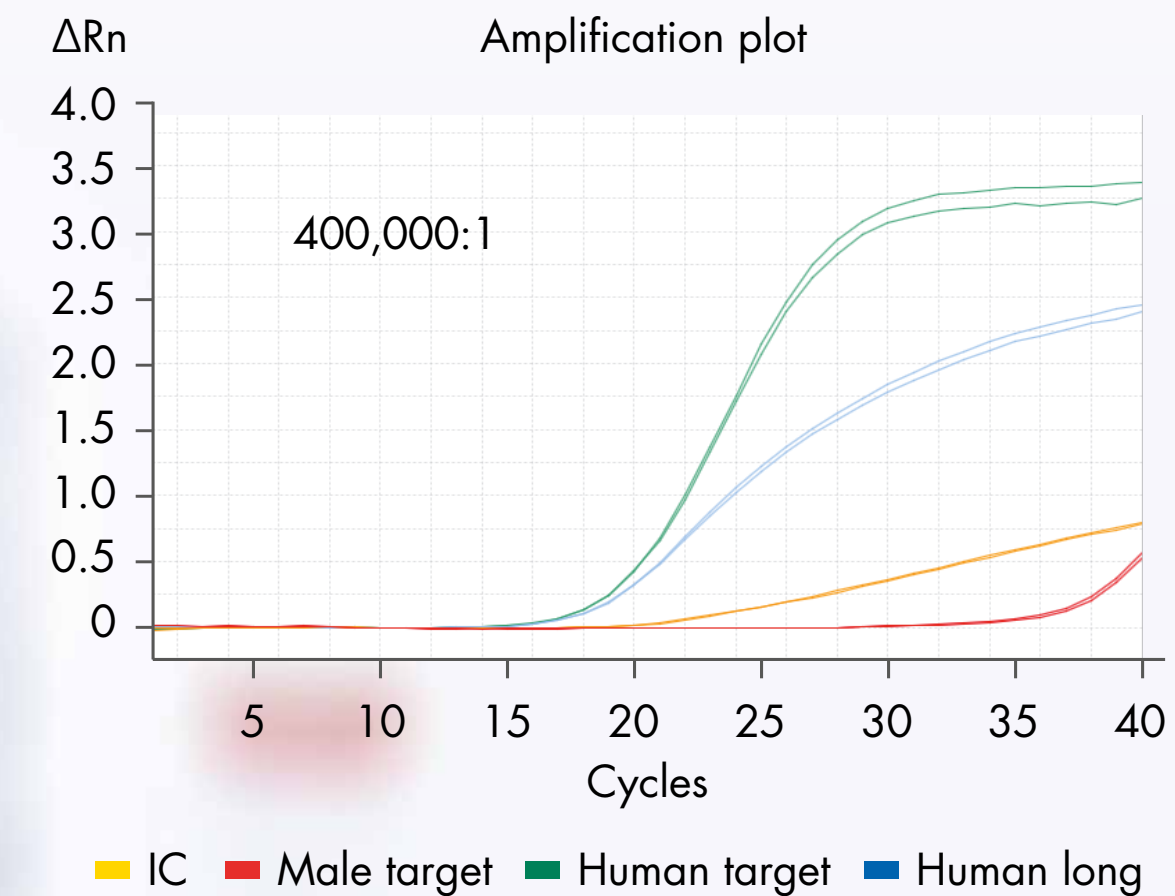
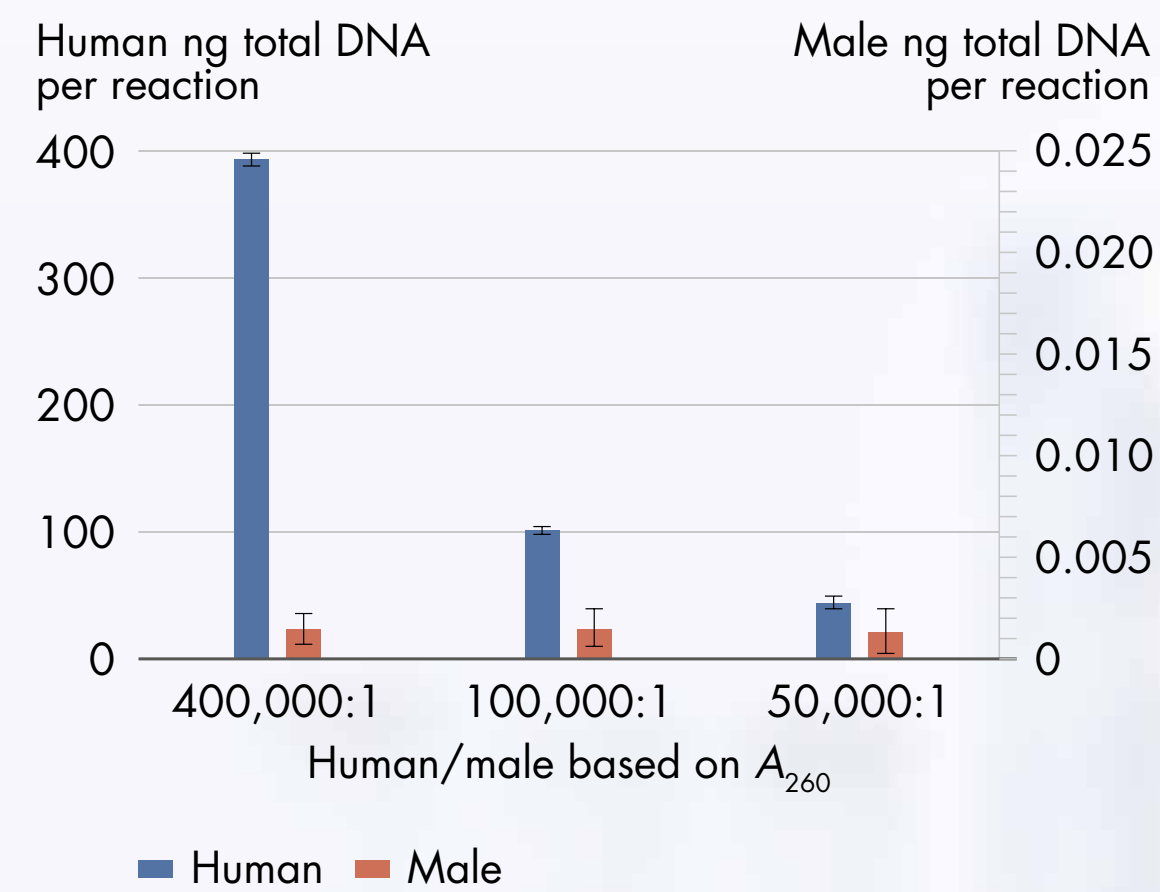
Unparalleled Sensitivity

Confident Target Detection

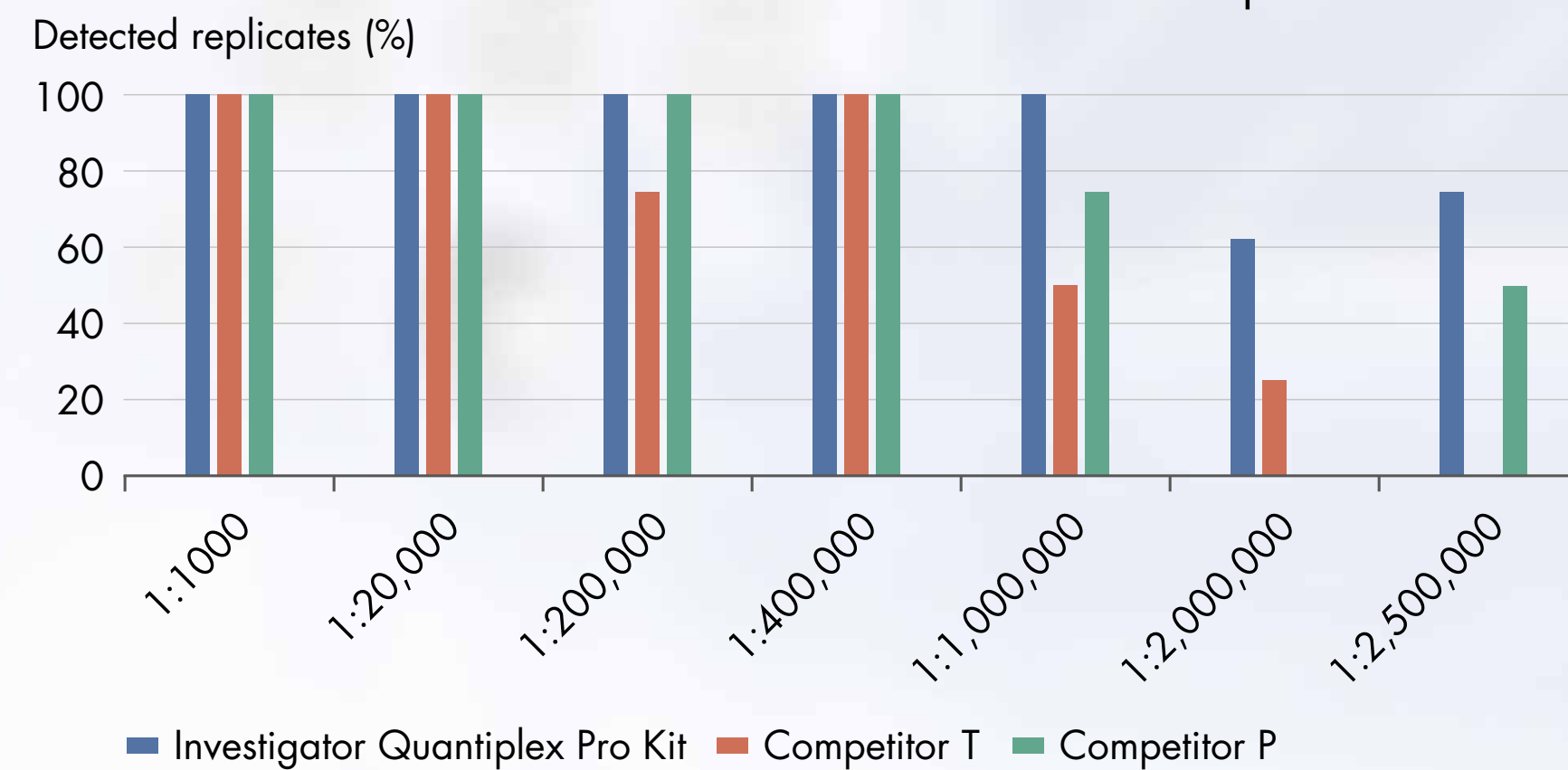
Reliable Inhibition/Degradation Detection

Ordering Information

High sensitivity for male DNA



Detection of male DNA in mixture samples



Male	Female	Ratio	Replicates
2.5 pg/μl	2.5 ng/μl	1:1000	4
2.5 pg/μl	50 ng/μl	1:20,000	4
0.5 pg/μl	100 ng/μl	1:200,000	4
0.5 pg/μl	200 ng/μl	1:400,000	4
0.25 pg/μl	250 ng/μl	1:1,000,000	8
0.1 pg/μl	200 ng/μl	1:2,000,000	8
0.1 pg/μl	250 ng/μl	1:2,500,000	8



Reliable detection of 1 pg of male DNA in 2,500 ng of female DNA background

Smart marker design allows accurate detection of degradation and inhibition

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Kit	Target	Amplicon size
Investigator Quantiplex Pro Kit	IPC	434
	Human large	353
	Human male	81
	Human small	91
Competitor T	IPC	130
	Human large	214
	Human male	75
	Human small	80
Competitor P	IPC	435
	Human large	294
	Human male	81/136
	Human small	84

Larger than the largest STR marker

Smaller than the smallest STR marker/ Amelogenin

Too small: Inaccurate data on inhibition and degradation

Too small: Inaccurate data on degradation

Precisely detects PCR inhibition and DNA degradation

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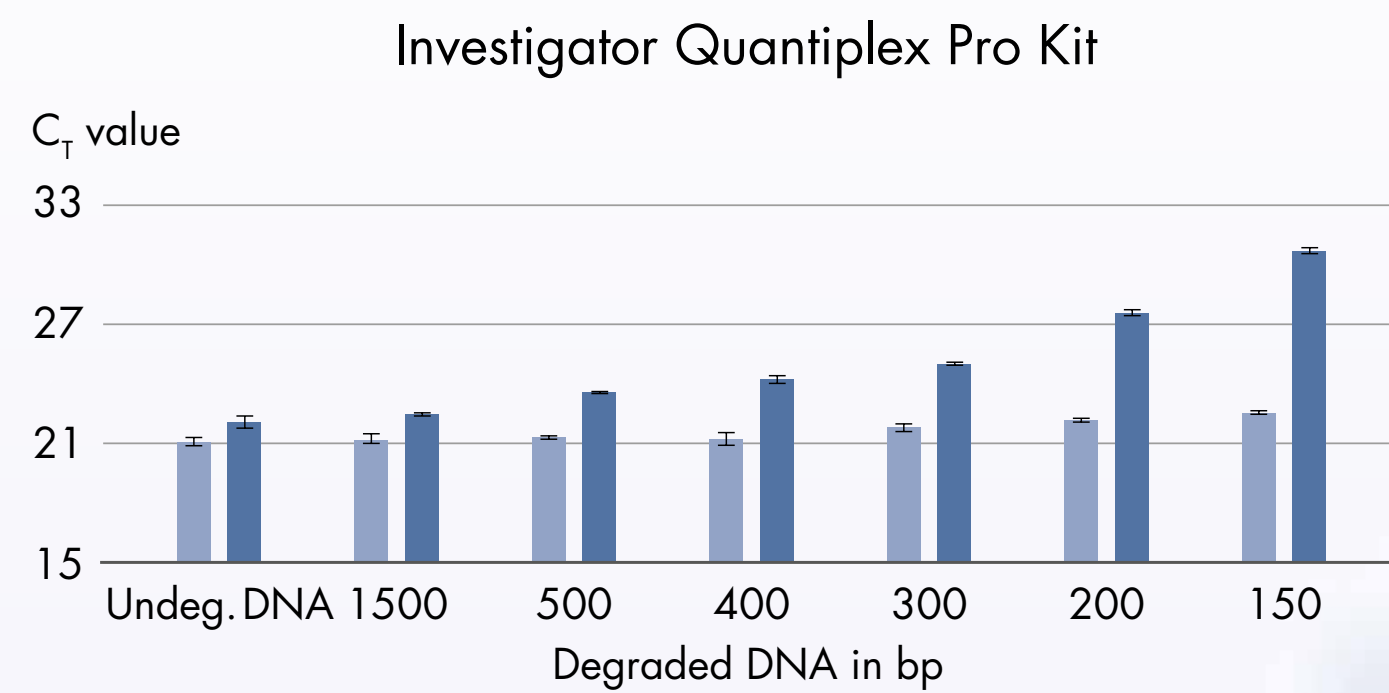
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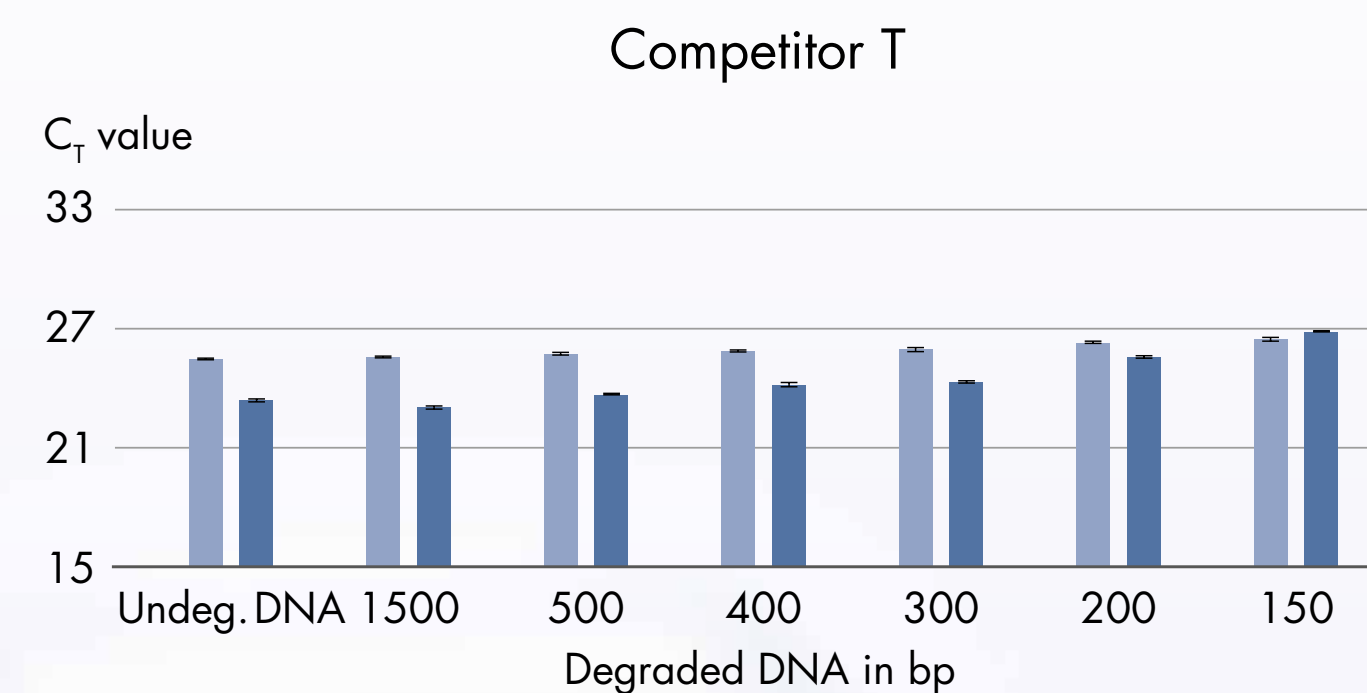
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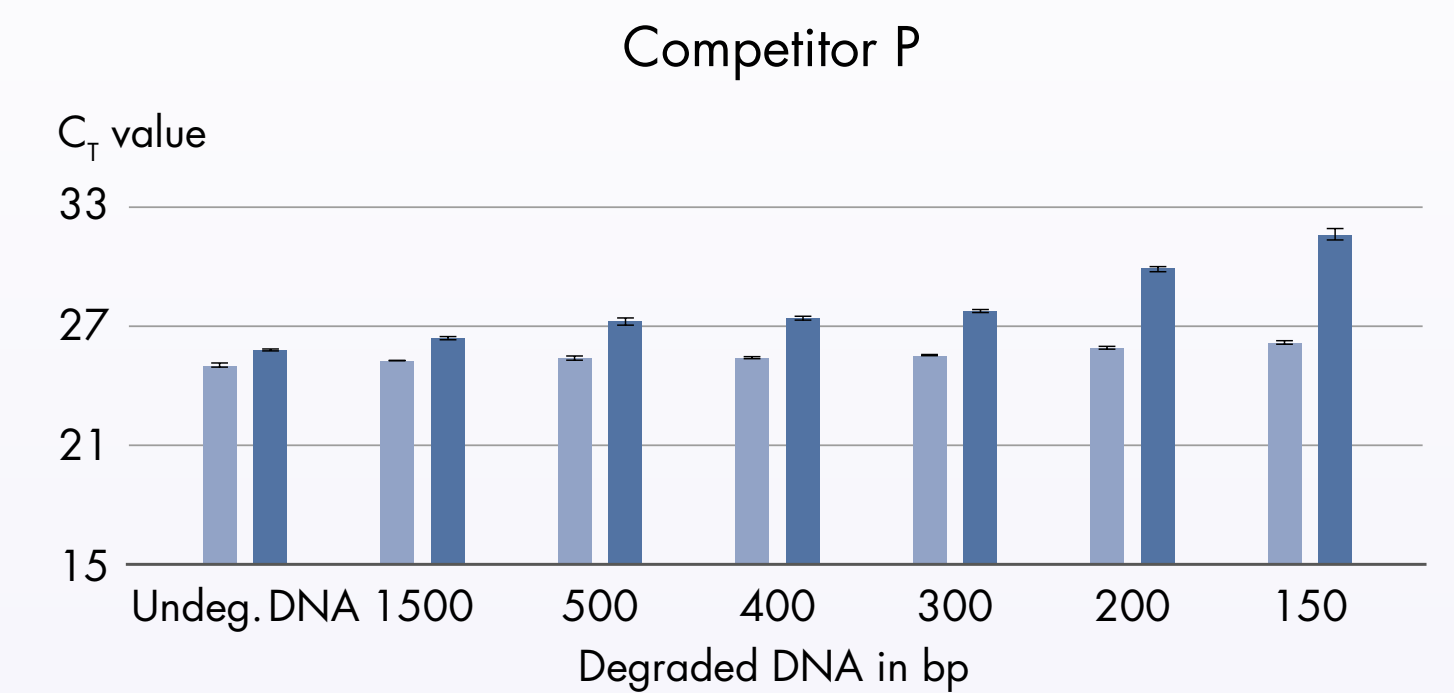
Ordering Information



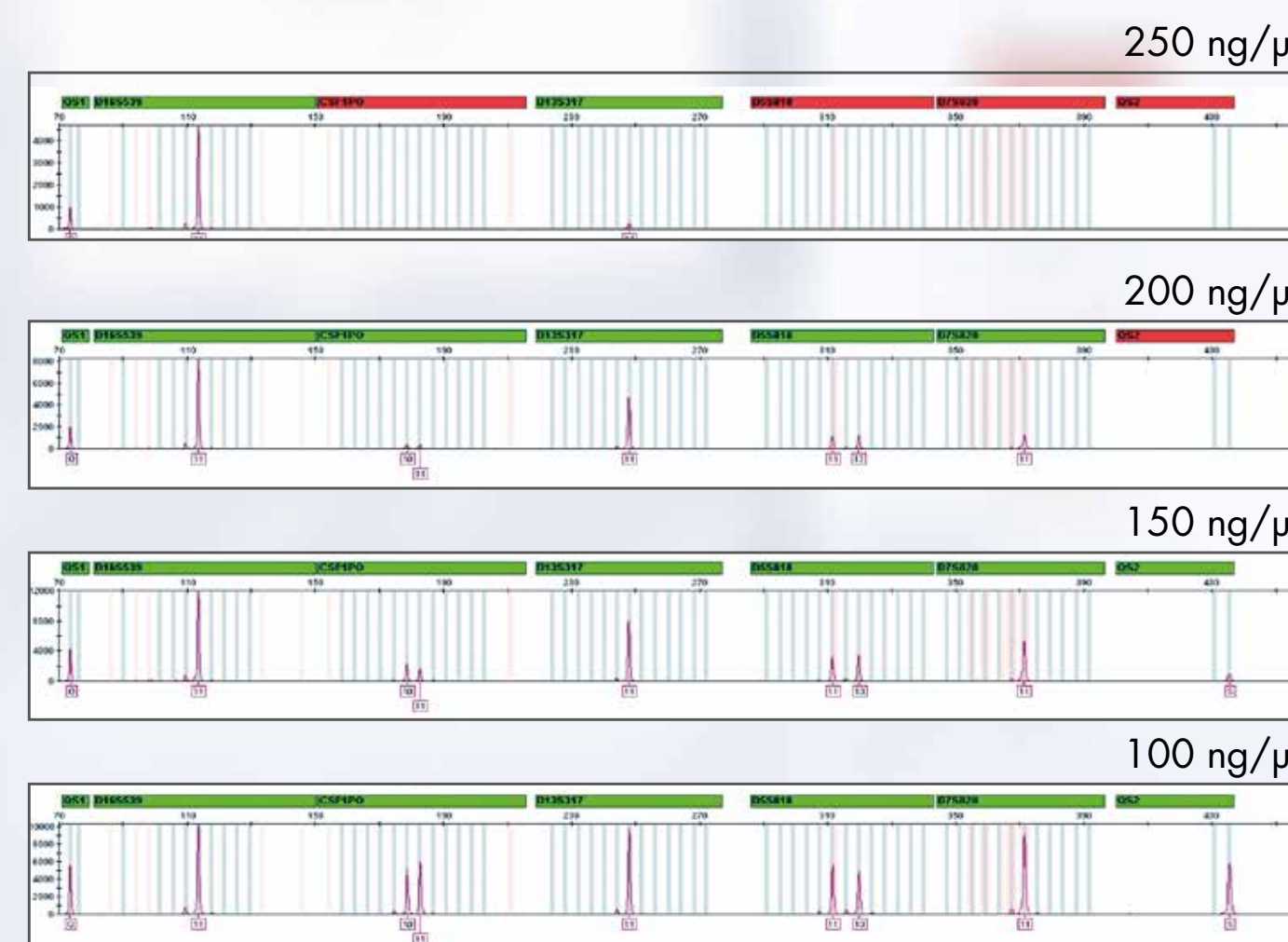
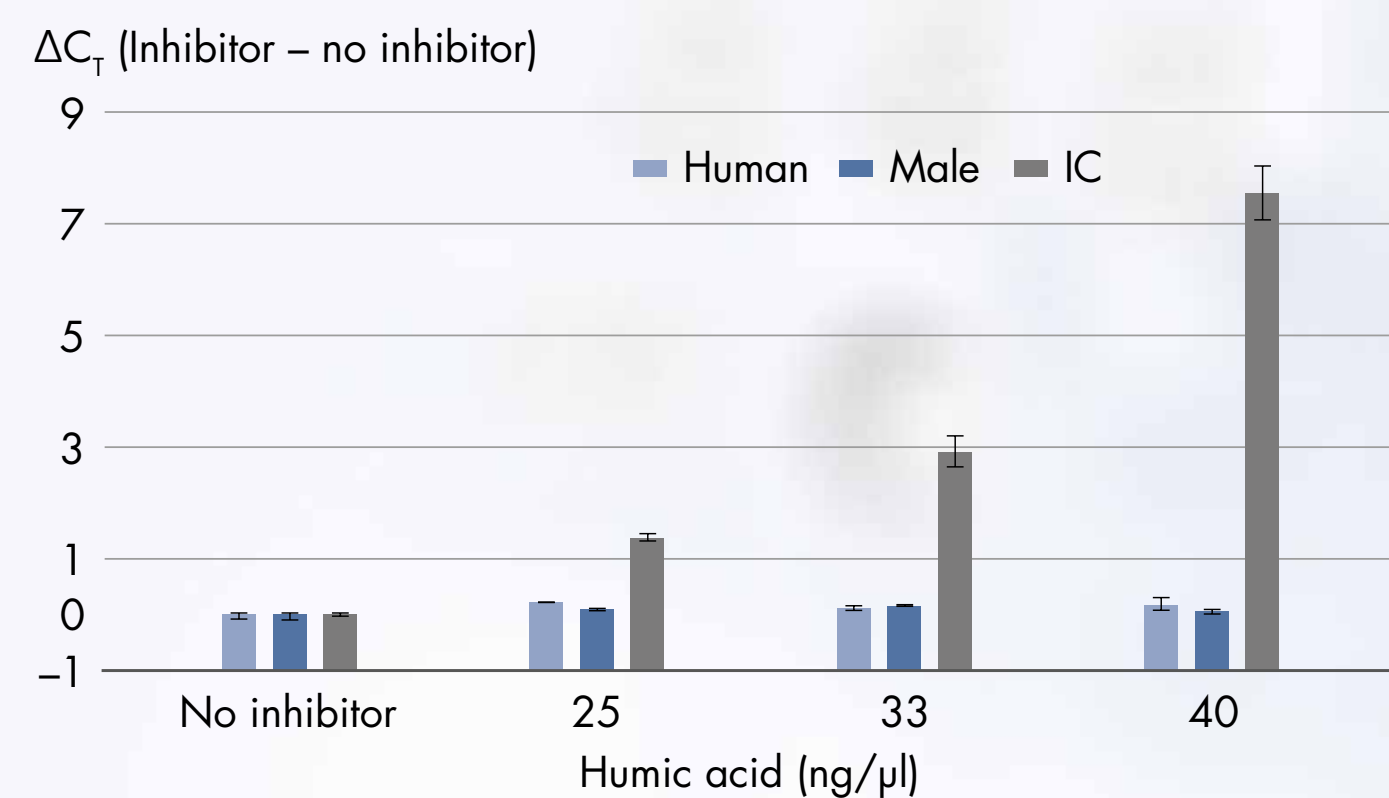
Clear C_T shift in human L with degraded DNA: accurate degradation data



No difference in human L and S: inaccurate degradation data



Some C_T shift in human L with degraded DNA



Inhibition detected by the Investigator Quantiplex Pro Kit is also verified by the Investigator 24plex QS Kit

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Product	Description	Cat. no.
Investigator Quantiplex Pro Kit (200)	For use on Applied Biosystems 7500 Real-Time Systems: Quantiplex Pro Reaction Mix, Quantiplex Pro Primer Mix, Quantiplex Pro Control DNA M1, QuantiTect Nucleic Acid Dilution Buffer	387216



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