altona DIAGNOSTICS

ExtraStar® Swab Wash Buffer 1.1*

Direct PCR from dry swabs as alternative to RNA extraction

Speed up your SARS-CoV-2 PCR analysis

Sample preparation in 25 minutes – up to 96 PCR results per real-time PCR instrument in just 90 minutes

Save costs and time

No further nucleic acid extraction reagents required

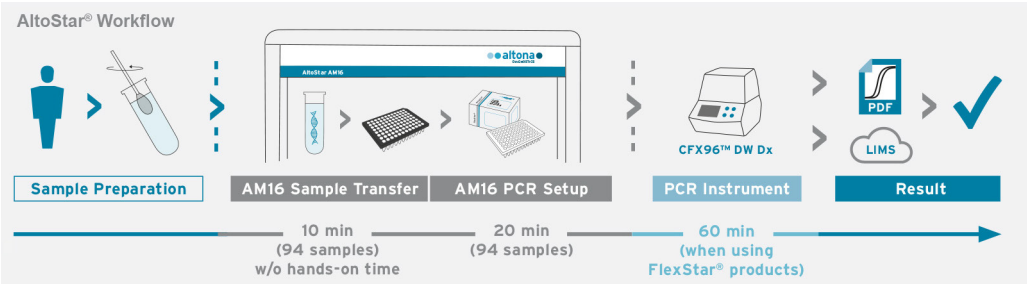
Less pipette tips and plastic consumables needed

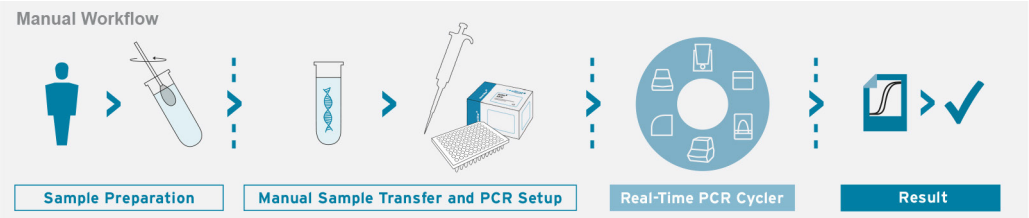
Faster result generation

Benefit from easy-to-use protocol

Heat inactivation optional

Handling flexibility allows use with the AltoStar® AM16 and open manual applications





ExtraStar®

Comparison of direct PCR with a conventional RNA extraction method

Artificial nasal matrix was spiked with inactivated, quantified and diluted SARS-CoV-2 viral cell culture supernatant and applied to dry nylon swabs. Six replicates at each concentration level were prepared. Swabs were afterwards washed out in 1 ml ExtraStar® Swab Wash Buffer 1.1* and either used directly for RT-PCR or after nucleic acid extraction using the AltoStar® Purification Kit 1.5 on the AltoStar® AM16. The FlexStar® SARS-CoV-2 Type & FLU Detection Mix 1.5 and the AltoStar® SARS-CoV-2 RT-PCR Kit 1.5 were used for RT-PCR. Results are shown in the following table.

Direct PCR using the AltoStar® SARS-CoV-2 RT-PCR Kit 1.5 respectively FlexStar® SARS-CoV-2 Type & FLU Detection mix 1.5.

	Hit Rate in %[1] AltoStar® SARS-CoV-2 RT-PCR Kit 1.5		Hit Rate in %[1] FlexStar® SARS-CoV-2 Type & FLU Detection Mix 1.5	
Copies/ml Swab Wash Buffer	AltoStar® Purification Kit 1.5 on AltoStar® Workflow	Direct PCR using ExtraStar® Swab Wash Buffer 1.1*	AltoStar® Purification Kit 1.5 on AltoStar® Workflow	Direct PCR using ExtraStar® Swab Wash Buffer 1.1*
25 000	100	100	100	100
10 000	100	100	100	100
5 000	100	100	100	100
2 500	100	100	100	100
1 000	100	100	100	83**

[1] Hit rates for the two targets E gene and S gene contained in the SARS-CoV-2 assays were the same at every condition tested.
** One of five replicates gave a negative result for both the E gene and S gene detection.

Conclusion

Use of the ExtraStar® Swab Wash Buffer 1.1* for washing out dry swabs and subsequent direct PCR can be a valuable tool to increase throughput and decrease time-to-result significantly. The loss of sensitivity compared to the conventional RNA extraction methods is mainly due to the missing concentration effect from sample input volume to eluate volume.

Order details

Product	Application	Kit size	Order No.
ExtraStar® Swab Wash Buffer 1.1*	Used for the wash-out of dry-stored respiratory swabs to extraction-freely obtain viral material for direct PCR	8 bottles of 120 ml (960 rxns)	5021106
AltoStar® Eluate Plate Adapter	Automation in combination with the AltoStar® AM16 requires the use of a reusable adapter for the Eluate Plate facilitating the sample transfer	1 Adapter	VK000034

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*For research use only (RUO). Not for use in diagnostic procedures.

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