

oKtopure

Automated nucleic acid extraction from leaf, seed and livestock samples

The oKtopure™ robot has been developed to deliver automated DNA extraction from 8 x 96-well microtitre plates in parallel, in combination with the proprietary sbeadex™ magnetic bead based chemistry. The instrument delivers standardised, high-throughput extraction with high quality DNA suitable for downstream applications such as sequencing, microarrays and SNP genotyping.

Increased efficiency and highest quality nucleic acid preparation

The oKtopure system is equipped with a 96-tip dispensing head optimised to work with sbeadex-based DNA extraction protocols.

The instrument utilises eight magnetic stations to fix the sbeadex beads properly in each well in the extraction plate. Fixing the beads in place using the magnetic stations enables the lysis and extraction buffers to be easily pipetted without disrupting the bead pellets, and therefore maximises DNA quality and yield.

oKtopure and sbeadex validated plant protocols

The oKtopure instrument has been optimised to deliver extraction protocols across a wide variety of plant species and is suitable for extraction from leaves, seeds, flour or roots. Our nucleic acid extraction team has developed extraction protocols for a huge range of sample types including many challenging matrices.

We offer pilot studies to validate protocols for starting materials not previously tested and can establish optimised protocols. Table 1 (next page) provides examples of previously validated species tested during the development and validation of sbeadex chemistry and the oKtopure.



Why choose the oKtopure?

- Enables higher throughput and full walk-away DNA extraction after lysis step
- Automation of sbeadex-based extractions
- Mini extractions (20-30 mg starting material)
 - ✓ 8 x 96 plates/1-1.5 hours
- Maxi extractions (30-100 mg starting material)
 - ✓ 8 x 96 plates/2.5 hours
- Efficient use of laboratory space
 - ✓ Small format: 170 cm x 76 cm x 88 cm
- Offline tip washing option drives reduced consumable costs through reuse of tips
 - ✓ Savings of up to 50 %
- Compatible with existing SNPLine installations
- The variable Z-position dispensing head allows use of both shallow and deep well plates
- sbeadex livestock - one kit for all sample types (excl. blood).

Table 1: Validated plant protocols

Plant species	Leaves	Seeds
Apricot (<i>Prunus armeniaca</i>)	✓	
Barley (<i>Hordeum vulgare</i>)	✓	✓
Beet, sugar (<i>Beta vulgaris</i>)	✓	
Canola/Oilseed (<i>Brassica napus</i>)	✓	✓
Chicory (<i>Cichorium intybus</i>)	✓	
Corn (<i>Zea mays</i>)	✓	✓
Cotton (<i>Gossypium</i>)	✓	✓
Cucumber (<i>Cucumis sativus</i>)	✓	✓
Flax (<i>Linum usitatissimum</i>)	✓	
Grape (<i>Vitis vinifera</i>)	✓	✓
Lettuce (<i>Lactuca sativa</i>)	✓	
Muskmelon (<i>Cucumis melo</i>)	✓	✓

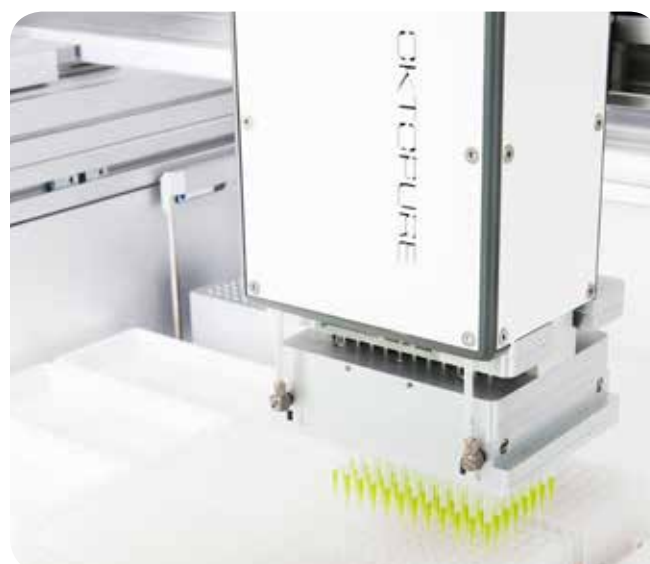
Plant species	Leaves	Seeds
Onion (<i>Allium cepa</i>)	✓	
Parsley (<i>Petroselinum crispum</i>)	✓	✓
Peach (<i>Prunus persica</i>)	✓	
Pepper (<i>Capsicum annuum</i>)	✓	✓
Potato (<i>Solanum tuberosum</i>)	✓	
Rice, Asian (<i>Oryza sativa</i>)	✓	✓
Rubber (<i>Hevea brasiliensis</i>)	✓	✓
Soybean (<i>Aphis glycines</i>)	✓	✓
Sunflower (<i>Helianthus annuus</i>)	✓	
Tobacco (<i>Nicotiana tabacum</i>)	✓	✓
Tomato (<i>Solanum lycopersicum</i>)	✓	
Wheat (<i>Triticum L.</i>)	✓	✓

Table 2: Successfully tested livestock species

Livestock species	Sample types
Bovine, pork, chicken, goat, sheep, horse, insects, fish	Hair/follicles, ear punches, FTA cards, semen, swabs, saliva, tissue

Consumables

Cat. No.	Description
NAP41607	sbeadex mini plant kit for oKtopure
NAP41640	sbeadex maxi plant kit for oKtopure
KBS-0010-003	96-well non-sterile tip rack (pack of 10)
KBS-0009-002	oKtowash™, concentrated wash buffer (500 mL)
KBS-0009-004	oKtopure mix plates (Thermo 1.2 mL deep well plate)
KBS-0009-006	Wash buffer bulk reservoirs (pack of 4)
KBS-7001-130	1.2 mL 96-well storage plate (box of 50)
KBS-7001-131	0.8 mL 96-well storage plate (box of 50)



Ordering information

Cat. No.	Description
KBS-0009-001	oKtopure high-throughput DNA extraction robot
KBS-0009-003	oKtopure offline tip wash option
KBS-0009-005	Manual 96-pin seed crusher
KBS-0009-015	oktopure 12-month service contract

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