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Expires March 31<sup>st</sup>, 2023

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# Monarch<sup>®</sup> RNA Cleanup Kits



## Monarch<sup>®</sup> RNA Cleanup Kit (10 µg)

#T2030S - 10 preps ~~\$88~~ **\$58.10**    #T2030L - 100 preps ~~\$442~~ **309.39**

## Monarch<sup>®</sup> RNA Cleanup Kit (50 µg)

#T2040S - 10 preps ~~\$81~~ **\$56.70**    #T2040L - 100 preps ~~\$426~~ **\$298.20**

## Monarch<sup>®</sup> RNA Cleanup Kit (500 µg)

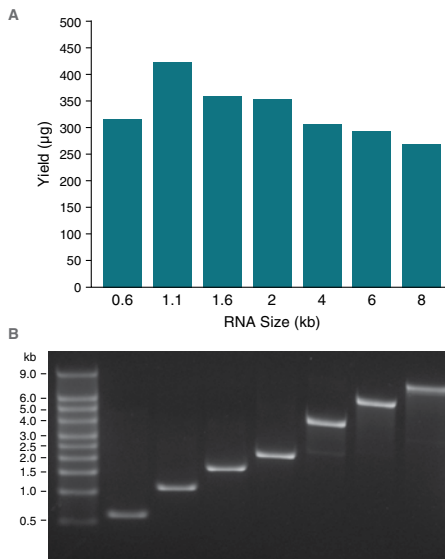
#T2050S - 10 preps ~~\$88~~ **\$61.60**    #T2050L - 100 preps ~~\$706~~ **\$494.19**

The Monarch RNA Cleanup Kits provide a fast and simple silica column-based solution for cleanup and concentration of RNA after enzymatic reactions (including in vitro transcription (IVT), DNase I and Proteinase K treatment, capping, tailing and labeling) as well as after RNA isolation (e.g., TRIzol extraction). These kits can also be used to extract RNA from cells, saliva and buccal/nasopharyngeal swabs. Kits are available in three different binding capacities: 10 µg, 50 µg and 500 µg, each containing unique columns designed to prevent buffer retention and ensure no carryover of contaminants.

### Monarch Kit Specifications:

MONARCH RNA CLEANUP KIT	NEB #T2030 (10 µg)	NEB #T2040 (50 µg)	NEB #T2050 (500 µg)
Binding Capacity	10 µg	50 µg	500 µg
RNA Size Range	≥ 25 nt (≥ 15 nt with modified protocol)		
Typical Recovery	70–100%		
Elution Volume	6–20 µl	20–50 µl	50–100 µl
Purity	$A_{260/280} > 1.8$ and $A_{260/230} > 1.8$		
Protocol Time	5 minutes of spin and incubation time		10–15 minutes of spin and incubation time
Common Downstream Applications	RT-PCR, RNA library prep for NGS, small RNA library prep for NGS, RNA labeling	RT-PCR, RNA library prep for NGS, formation of RNP complexes for genome editing, microinjection, RNA labeling, transfection	RT-PCR, RNA library prep for NGS, RNA labeling, RNAi, microinjection, transfection

The Monarch RNA Cleanup Kit (500 µg) is suitable for cleaning up large quantities (>250 µg) of RNA from in vitro transcription reactions



A. RNA transcripts of varying sizes (0.6–8 kb) were synthesized using the HiScribe<sup>™</sup> T7 Quick High Yield RNA Synthesis Kit (NEB #E2050). 40 µl of each in vitro transcription (IVT) reaction was cleaned up using the Monarch RNA Cleanup Kit (500 µg) (NEB #T2050). RNA yields were calculated from the resulting A<sub>260</sub>, measured using a Nanodrop spectrophotometer and ranged from 268–425 µg of RNA per IVT reaction.

B. RNA integrity (200 ng/lane) was assessed on a 1% agarose-TBE gel stained with SYBR<sup>®</sup> Gold.

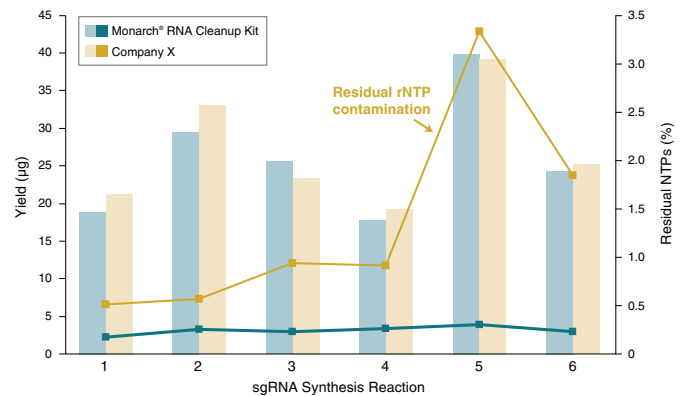
### Advantages:

- Isolate highly pure RNA ( $A_{260/280}$  and  $A_{260/230} \geq 1.8$ ) in minutes
- Clean up RNA with simple protocol utilizing a single wash buffer
- Elute in as little as 6 µl (NEB #T2030) or 20 µl (NEB #T2040)
- Bind up to 500 µg of RNA (NEB #T2050)
- Adjust cutoff size down to 15 nt with a slight protocol modification
- Can be used for RNA extraction from some samples; extraction from saliva can be automated on the QIAcube and KingFisher Flex platforms

### Applications:

- Cleanup & concentration after enzymatic reactions (e.g., DNase I and Proteinase K treatment)
- Cleanup after RNA synthesis (IVT and sgRNA synthesis)
- Cleanup & concentration of previously-purified RNA (e.g., after TRIzol extraction)
- RNA extraction from cells, saliva and swabs (buccal/NP)
- RNA Gel Extraction

The Monarch RNA Cleanup Kit (50 µg) produces sgRNA yields consistent with competitor RNA cleanup kits and with lower residual NTP contamination



Six different sgRNA synthesis reactions from the EnGen<sup>®</sup> sgRNA Synthesis Kit, *S. pyogenes* (NEB #E3322) were cleaned up using either the Monarch RNA Cleanup Kit (NEB #T2040) or a competitor kit (according to manufacturer's recommendations) and eluted in 50 µl nuclease-free water. sgRNA yield was calculated from the resulting A<sub>260</sub>, measured using a Trinean DropSense<sup>™</sup> 16. The Monarch RNA Cleanup Kit produced sgRNA yields consistent with other commercially available RNA cleanup kits.

Following cleanup, residual nucleotides (NTPs) were measured by LC-MS and are reported as percent area NTPs (rATP+rCTP+rGTP+rUTP)/percent area sgRNA. The NEB Monarch RNA Cleanup Kit consistently outperforms other commercially available RNA cleanup kits in the removal of residual NTPs from sgRNA synthesis reactions.

\*TERMS & CONDITIONS: Offer valid in Canada only. Expires March 31<sup>st</sup>, 2023. Discount is eligible for products listed on this flyer. Purchase can be made online at [www.neb.ca](http://www.neb.ca) or through a NEB freezer program. Eligible products get discounted automatically when added to cart. Promotion not valid for cash or cash equivalent towards purchase(s). No substitutions. Offer may not be applied to existing, pending or prior orders. Cannot be combined with any other promotion or discount. One or more of these products are covered by patents, trademarks and/or copyrights owned or controlled by New England Biolabs, Inc. For more information, please email us at [gbd@neb.com](mailto:gbd@neb.com)

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