

GenElute™-E Single Spin purification kits

Greener nucleic acid purification

The single spin technology

Traditional DNA and RNA purification uses silica membrane columns to isolate nucleic acid from cell, tissue, blood, and other sample types. In these methods, DNA or RNA is bound to silica using high concentrations of chaotropic salts such as guanidine hydrochloride. These bind-wash-elute methods require multiple wash and spin steps and chemical additives that can negatively impact nucleic acid quantitation as well as downstream enzymatic processes, such as PCR.

GenElute™-E kits are based on the principle of negative chromatography. Impurities like salt, detergent, proteins and organic solvents are removed by the spin column, while the purified nucleic acid is collected in the flow-through – all in just one single centrifugation step. This convenient procedure enables a significantly faster purification of nucleic acid samples with less handling.

With silica-based methods, traces of chaotropic salt and ethanol can potentially be co-eluted with purified nucleic acid, resulting in inhibition of real-time PCR experiments. GenElute™-E kits do not contain any chaotropic salts, organic solvents or EDTA, resulting in improved performance in downstream applications such as PCR.

The sustainability facts

GenElute™-E Single Spin kits offer several sustainability benefits beyond standard silica-based kits.

Note: The figures below refer to a representative comparison of the workflow using our GenElute™-E Single Spin technology with the workflow using conventional silica-based technology. The reduction of the consumption of plastic consumables may vary depending on the kit.

Waste prevention



55% reduction of the consumption of plastic consumables (tubes, pipet tips) compared to silica-based kits

Sustainable packaging



Sustainable forestry certification and more than 70% of recycled content in packaging. Starch-based, compostable bags for kit components

Better usability



Simplified workflow with fewer steps

Safer disposal



No hazardous liquid waste by eliminating bind and wash steps containing ethanol and chaotropic salts



Greener alternative products
















We believe that green chemistry will contribute to a better tomorrow. With a growing portfolio of greener alternatives, there are now more choices to reduce the ecological impact of your research while still delivering quality and efficacy, so your results are not compromised.

Our GenElute™-E kits are aligned with both the "Prevention" and "Designing Safer Chemicals" principles from The 12 Principles of Green Chemistry as they avoid hazardous liquid waste and significantly reduce the amount of plastic waste, compared to conventional silica-based methods. Therefore, they are classified as greener alternatives products under the category "12 Principles Aligned Products".

Our GenElute™-E kits also adhere to the principles of SMASH Packaging, our plan that drives improvement in sustainability through less packaging, more sustainable materials and easier recycling.



Ordering Information

Cat. No.	Product Description
EC100-10RXN EC100-50RXN EC100-250RXN	GenElute™-E Single Spin Blood DNA Kit 
EC200-10RXN EC200-50RXN EC200-250RXN	GenElute™-E Single Spin Blood DNA HiYield Kit 
EC196-2EA EC196-8EA	GenElute™-E Single Spin Blood DNA 96 Kit 
EC300-10RXN EC300-50RXN EC300-250RXN	GenElute™-E Single Spin Tissue DNA Kit 
EC396-2EA EC396-8EA	GenElute™-E Single Spin Tissue DNA 96 Kit 
EC400-10RXN EC400-50RXN EC400-250RXN	GenElute™-E Single Spin Cell Culture DNA Kit 
EC500-10RXN EC500-50RXN EC500-250RXN	GenElute™-E Single Spin Plant DNA Kit 
EC596-2EA EC596-8EA	GenElute™-E Single Spin Plant DNA 96 Kit 
EC600-10RXN EC600-50RXN EC600-250RXN	GenElute™-E Single Spin DNA Cleanup Kit 
EC700-10RXN EC700-50RXN EC700-250RXN	GenElute™-E Organic Solvent DNA Cleanup Kit 
EC600-10RXN EC600-50RXN EC600-250RXN	GenElute™-E Single Spin RNA Cleanup Kit 
EC900-10ML EC900-100ML	GenElute™-E FFPE Deparaffinization Solution 
EC111-100ML EC111-500ML	GenElute™-E Tissue Stabilizer 
EC222-1EA EC222-5EA	GenElute™-E RNA Gel Loading Buffer 
EC9999-1EA	GenElute™-E Single Spin Cap Puncher 

Explore our complete range of greener alternatives at:
SigmaAldrich.com/greenchemistry

To learn more about GenElute™-E DNA & RNA purification kits,
visit SigmaAldrich.com/singlespin

