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Concepts & Fundamentals

Oligo resuspension and dilution calculators

Use our free oligo calculators to simplify your resuspension and dilution process

Last updated: 02/27/23

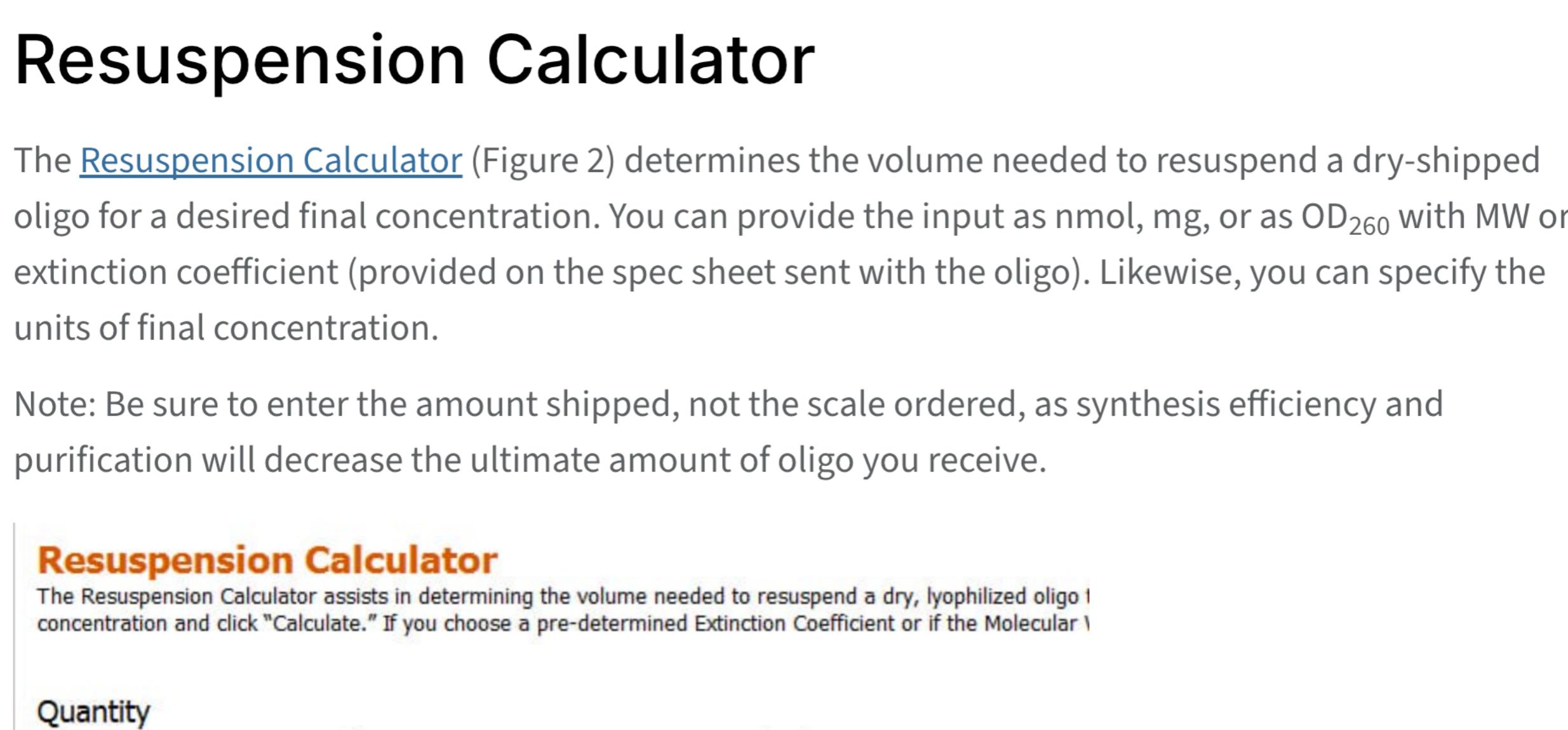
Read time: 2 minutes

Hans Packer

PhD, Scientific Writer, IDT

Key summary

Save time by using these free oligo resuspension and dilution calculators. A variety of units can be used as input values. Review the screen shots that show how these calculation tools can help you move on with your research.



The screenshot shows the IDT website's main navigation bar at the top. Below it, the 'TOOLS' tab is selected, revealing a grid of calculators. Red arrows point from the text 'Resuspension Calculator' and 'Dilution Calculator' to their respective tool boxes in the grid.

- OLIGO DESIGN & HANDLING**
 - OligoAnalyzer Tool
 - UNAFold Tool
 - Resuspension Calculator
 - Dilution Calculator
- CRISPR GENOME EDITING**
 - Alt-R Predesigned Cas9 crRNA Selection Tool
 - Alt-R Custom Cas9 crRNA Design Tool
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- qPCR ASSAY DESIGN**
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 - PrimeTime Multiplex Dye Selection
- GENE REGULATION AND RNAI**
 - Predesigned DsiRNA Selection Tool
 - RNAi Design Tool
- GENOTYPING**
 - rhAmp Genotyping Design Tool
- SYNTHETIC BIOLOGY**
 - Codon Optimization Tool
 - gBlocks Gene Fragments Entry Tool
- NGS TOOLS**
 - Target capture probe design & ordering

Figure 1. Access the Resuspension and Dilution Calculators via the Tools tab on the IDT website.

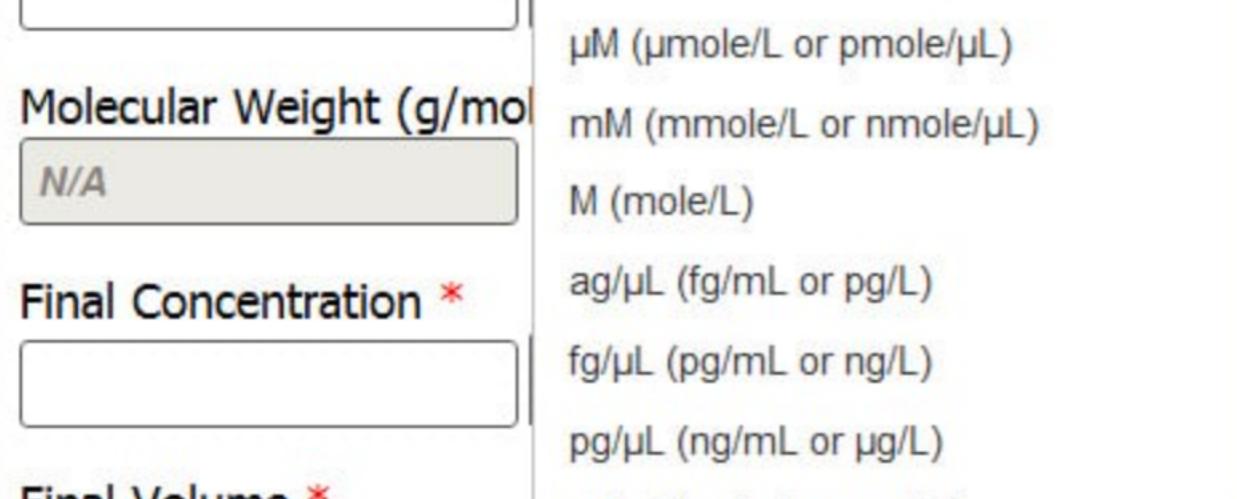
Resuspension Calculator

The [Resuspension Calculator](#) (Figure 2) determines the volume needed to resuspend a dry-shipped oligo for a desired final concentration. You can provide the input as nmol, mg, or as OD₂₆₀ with MW or extinction coefficient (provided on the spec sheet sent with the oligo). Likewise, you can specify the units of final concentration.

Note: Be sure to enter the amount shipped, not the scale ordered, as synthesis efficiency and purification will decrease the ultimate amount of oligo you receive.

Resuspension Calculator

The Resuspension Calculator assists in determining the volume needed to resuspend a dry, lyophilized oligo to a desired concentration and click "Calculate." If you choose a pre-determined Extinction Coefficient or if the Molecular Weight is not needed, leave those fields blank.



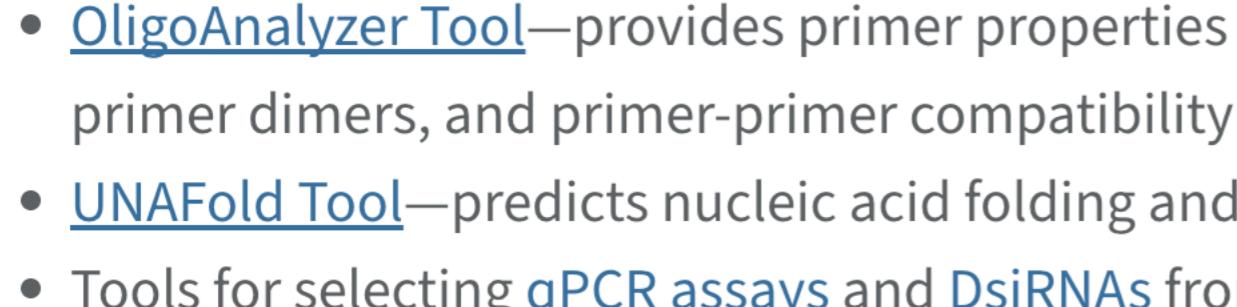
The form includes fields for 'Quantity' (nmole), 'Final Concentration' (μM), 'Extinction Coefficient' (OD₂₆₀/mL, OD₂₆₀/μL, μg/μL, ng/μL, μM), 'Molecular Weight' (Not Needed), and buttons for 'Calculate' and 'Clear'.

Figure 2. The IDT Resuspension Calculator.

Dilution Calculator

Dilution Calculator

Takes an oligo stock solution of higher concentration and determines how much volume to dilute down to final (desired) concentration. Input of the volumes of the stock solution (Start Volume) and the diluted solution (End Volume) are not required, but



The form includes fields for 'Starting Concentration' (pmM), 'Starting Volume' (nM, pM, μM, mM, M, ag/μL, fg/μL, pg/μL, ng/μL), 'Molecular Weight (g/mol)' (N/A), 'Final Concentration' (pmM, nM, pM, μM, mM, M, ag/μL, fg/μL, pg/μL, ng/μL), 'Final Volume' (nL, pL, μL, mL, L), and buttons for 'Calculate' and 'Clear'.

Figure 3. The IDT Dilution Calculator.

The [Dilution Calculator](#) (Figure 3) provides details on how to dilute a stock solution to a desired concentration. You are given a choice of input and output concentration units (molarity or mass per volume). The Resuspension and Dilution Calculators are just two examples out of a suite of SciTools™ programs, provided for free use on the IDT website. Others include:

- [OligoAnalyzer Tool](#)—provides primer properties like T_m and GC%, and predicts primer loops, primer dimers, and primer-primer compatibility
- [UNAFold Tool](#)—predicts nucleic acid folding and hybridization
- Tools for selecting [qPCR assays](#) and [DsiRNAs](#) from a library of designs
- Design engines for qPCR [primers](#) and [probes](#), [RNAi](#), [antisense](#), and [locked nucleic acid sequences](#)

Explore these tools, and others, in the SciTools suite [here](#).

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