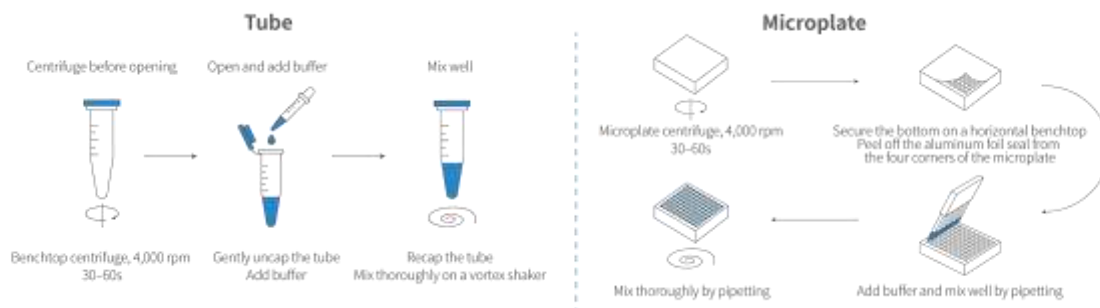


1. Dry Powder DNA Oligo User Instruction

Vacuum-concentrated and dried oligos appear as a light, dry film attached to the wall of the tube or well. They are usually invisible to the naked eye, which is considered normal. If ordered in large amounts, the oligos may appear as a foamy or crystalline pale yellow solid. If you receive the oligos as dry powders, do not open the tube before performing the following actions to avoid losing the powder.



2. Storage Conditions

The dry oligo powder can be stored at -20°C for two years. After reconstituting, it's advisable to aliquot and store the oligos at -20°C , where they can remain stable within 10 times of repeated freeze and thaw. Extra precautions, such as light avoidance, are needed for fluorescent-labeled oligos (such as probes). All our fluorescent-labeled oligos are supplied in light-shielding brown tubes. If you use transparent tubes for stock or working solutions, you can wrap them in aluminum foil to prevent light exposure.

3. Notes

- Regular oligos have 5' and 3' hydroxyl groups and can be used directly for PCR. Phosphorylation labeling requires additional modification services.
- Oligo DNA electrophoresis must be conducted with 7M urea polyacrylamide gel and 1x TBE buffer, agarose gel electrophoresis is not suitable for oligo DNA. To prevent diffusion during sample loading and mitigate the impact of secondary structures, samples must be treated with saturated urea before loading.

4. Unit Definition

OD_{260} : The total amount of oligos in 1 mL solution which has a 260 nm absorbance of 1 in a standard 1 cm cuvette. The absorbance at 260 nm can be used to measure the concentration of nucleic acids in the solution. Approximate conversion are as follows:

- Double-stranded DNA (dsDNA): $1 \text{ OD}_{260} \approx 50 \mu\text{g}$
- Single-stranded DNA (ssDNA): $1 \text{ OD}_{260} \approx 33 \mu\text{g}$
- Single-stranded RNA: $1 \text{ OD}_{260} \approx 40 \mu\text{g}$

Example: For a 30 nt ssDNA with an OD_{260} of 2, $\text{MW} = 8462.14$, $\text{DNA mass} = 2 \times 33 = 66 \mu\text{g}$.

$$\text{moles} = 66 / 8462.14 = 0.008 \mu\text{mol} = 8 \text{ nmol}$$

5. Molecular Weight Calculation

$$\text{MW} = (\text{A} \times 313.21) + (\text{C} \times 289.18) + (\text{G} \times 329.21) + (\text{T} \times 304.19) - 61.96 + \text{MW of modification groups}$$

A/C/G/T stands for the quantity of respective nucleic acid residues. The relative MW is listed on the Oligo Synthesis Report.

6. After-Sales Services

If you have any quality concerns about the oligos, please notify us within one month of receipt. For efficient product recovery and quantity assessment, please do not wait until the oligos are used up or nearly used up. If confirmed as a quality issue, we will re-synthesize the oligos for you free of charge. In case of a claim, compensation will be considered within the price range of the claimed oligos. Claims beyond this price range will not be accepted.