**User Guide: Oligo Synthesis Product**

Dear Customer,

Thank you for your trust and support in us! Before using Quintara Bioscience oligo synthesis products, please read the following instructions.

The COA (Certificate of Analysis) report provides parameters such as the molecular weight (MW), tube number, nmole amount, and μg amount for each oligo. The μg amount marked on the centrifuge tube label represents the total μg amount of the oligo in a single tube. Quintara’s robust primer order management and production system ensures that the synthesized oligo sequence matches the sequence on the report. If the sequence does not match the one you submitted to us, please contact us immediately.

* **Explanation of Some Parameters**

nmol amount: Measured by UV spectrophotometry at 260 nm and converted accordingly.

Molecular Weight Calculation:

MWDNA = (#A×313.21) + (#G×329.21) + (#C×289.18) + (#T×304.20) + (#I×314.19) + (#U×290.17) + (Nmod×Wmod) - 61.96;

MWRNA = (#A×329.21) + (#G×345.21) + (#C×305.18) + (#U×306.20) + (Nmod×Wmod) - 61.96;

Note: "#" represents the number of corresponding bases; Nmod & Wmod represent the number and molecular weight of modified groups; for degenerate bases, the molecular weight is the sum of the molecular weights of degenerate bases divided by the number of degeneracies.

Tm Value Calculation: This is a theoretical estimate based on a primer concentration of 200 nM and a salt ion concentration of 50 mM. The actual Tm value may vary significantly due to differences in primer or salt ion concentrations in experiments. Therefore, the calculated Tm value is only provided as a reference for experimental parameter settings.

* **Storage Condition**

To prevent degradation, store the oligo product at -20℃ and avoid repeated freeze-thaw cycles. Under these conditions, the shelf life of the sample is 2 years.

If degradation occurs after a period of use, it may be related to your storage methods or the quality of the experimental water used.

* **Other Notes**

Oligo synthesis is a multi-step chemical reaction process, and the efficiency of each step cannot reach 100%. By-products are inevitable. After PCR amplification and cloning, we recommend picking 2-3 clones for sequencing. If you find mutations in the primer region in all clones, please contact us immediately, and we will arrange a free re-synthesis or waive the cost of the primer.

If you have any questions about the quality of the primer, please contact us within three months of receipt.

* **Common degenerate base codes**

M=A/C R=A/G W=A/T S=G/C Y=C/T K=G/T V=A/G/C H=A/C/T D=A/G/T B=G/C/T N=A/G/C/T