

Annealing Buffer for DNA Oligos (5×)

Cat. No.: D1518364 | Pack size: 1 mL | Storage: See component table

Overview

Annealing Buffer for DNA Oligos is suitable for routine DNA oligo annealing, and is particularly effective for difficult-to-anneal DNA oligos used in RNAi/siRNA plasmid construction. Such DNA oligos often contain approximately 20 bp complementary sequences, making them prone to forming hairpin structures that can interfere with correct pairing and annealing of the two strands.

Annealing Buffer for DNA Oligos (5×) effectively inhibits the formation of DNA oligo hairpin structures. The annealed products can be used directly in subsequent steps such as restriction enzyme digestion followed by plasmid ligation and transformation, significantly improving the positive clone yield. This reagent is easy to use; simply mix the oligos with the annealing buffer in the appropriate proportions and complete the annealing process via a PCR instrument programmed for controlled cooling over approximately 90 minutes.

This product is for research use only. Not for use in diagnostic procedures or other purposes.

Product Components and Storage Conditions

Item No.	Component	Size	Storage
D1518364A	Annealing Buffer for DNA Oligos (5×)	1 mL	-20°C
D1518364B	Nuclease-Free Water	5 mL	RT

Procedure (For Reference Only)

1. Reagent Preparation

Prepare the DNA oligos to be annealed as a 50 µM working solution using sterile ultrapure water or Nuclease-Free Water.

Thaw and thoroughly mix the Annealing Buffer for DNA Oligos (5×).

2. Annealing Reaction Setup (Total Volume 100 µL)

Prepare the reaction mixture according to the table below, adding components in the order listed and mixing well. If the PCR instrument does not have a heated lid, overlay with Mineral Oil to prevent evaporation.

Component	Volume
Nuclease-Free Water	40 µL
Annealing Buffer for DNA Oligos (5×)	20 µL
DNA oligo A (50 µM)	20 µL
DNA oligo B (50 µM)	20 µL

3. PCR Instrument Annealing Program

Step	Temperature	Time	Purpose
1	95°C	2 min	Complete denaturation of oligos
2	Decrease 1°C every 90 s to 25°C	~90 min	Programmed annealing
3	4°C	Hold	Temporary storage

4. Subsequent Use

The annealed product can be used directly in ligation reactions or stored at -20°C for later use.

If subsequent enzymatic reactions (e.g., restriction enzyme digestion) are required, it is recommended to purify the annealed product first, or ensure that the volume of the annealed product constitutes less than 5% of the final reaction system to avoid buffer interference with enzyme activity.

Notes

- Avoid repeated freezing and thawing of the reagent to prevent decreased annealing efficiency.
- This product is specifically designed for DNA oligo annealing and should not be used for RNA oligos.
- Please wear laboratory appropriate attire and disposable gloves during operation to ensure safety.

- Use the reagent as soon as possible after opening to ensure optimal performance.

Specifications

Attribute	Value
Specifications & Purity	BioReagent, Suitable for molecular biology, sterile, 5×
Stability And Storage	Each component has a shelf life of 1 year under corresponding storage conditions.
Storage Conditions	Room temperature, store at -20°C
Shipped In	Ice chest + ice pads. This product requires cold chain shipping. Ground and other economy services are not available.
Grade	BioReagent, sterile, Suitable for molecular biology

Contact & Global Offices

Whether you have a technical question, need help with a quotation, or want to inquire about an order, our regional teams are ready to assist. Please contact the office for your region; for general inquiries, the North American office is the corporate primary.

NORTH AMERICAN SALES, SUPPORT & GENERAL INQUIRIES Aladdin Scientific Corporation 14078 Meridian Parkway, Riverside, CA 92518, USA Phone: 1-833-552-7181 Sales: sales@aladdinsci.com Customer Service: custserv@aladdinsci.com	EU SALES, LOGISTICS & LOCALIZED SUPPORT Aladdin Biochem Deutschland GmbH Westring 2, 33142 Büren, Germany Phone: +02951 9383958 Support: support.eu@aladdinsci.com
---	--

Limitations & Disclaimer

- For Research Use Only (RUO). Not for use in human or animal diagnostics, therapeutics, or in vivo applications. Not for food, cosmetic, or household use.
- This product is not a CE-marked in vitro diagnostic device under IVDR (EU) 2017/746 and is not an FDA-cleared device under 21 CFR. Use is restricted to verified businesses, institutions, and qualified professionals for research and development purposes.

- Where any kit component is classified as hazardous under CLP (EC) 1272/2008 or OSHA HCS (29 CFR 1910.1200), the product Safety Data Sheet (SDS) takes precedence over this document for handling, storage, and disposal information.
- Performance depends on sample type, sample condition, handling, and operator technique. Users are responsible for validating the product for their specific application.
- Aladdin product labels, SDS, COA, and approved specifications take precedence over this document. If product formulation, label, SDS, storage condition, pack size, or quality specifications change, this document would be reviewed and reissued.