

Oligonucleotide Conjugation Kit ab218260

[20 References](#) [6 Images](#)

Overview

Product name Oligonucleotide Conjugation Kit

Assay time 2h 00m

Product overview The Oligonucleotide Conjugation Kit (ab218260) enables the easy and efficient generation of antibody-oligonucleotide conjugates in less than 2 hours. The kit can be used to generate conjugates of different ratios of antibody: oligonucleotide. It also includes positive controls that allow the user to confirm that the conjugation chemistry has worked correctly.

This kit can be used to conjugate antibodies to single-stranded oligonucleotides that are 10-120 bases long or to double-stranded oligonucleotides that are up to 80 bases long. The oligonucleotide should be synthesized to include a terminal amine group.

The 1 x 100 µg kit includes reagents for 1 conjugation of 100 µg of antibody and 1 control.

The 3 x 100 µg kit includes reagents for 3 conjugations of 100 µg of antibody and 1 control.

As expected for any chemical conjugation, the concentration and buffer formulation of the oligonucleotide and the antibody need to fall within certain parameters, as detailed in the protocol booklet.

Benefits

Quick and easy to use – Save time, no specialist knowledge required

High levels of antibody and oligo recovery – Conjugation efficiency is about 95-100%.

Use your own oligo and antibody, at your desired ratio – Flexible

Freeze dried – Ships at ambient temperature, long shelf life

Stringently QC tested – Consistent high quality, excellent batch to batch reproducibility

Unidirectional chemistry – No risk of crosslinking

Covalent bond – Highly stable conjugates

Suitable for single stranded oligos of 10–120 bases, and double stranded oligos up to 80 base pairs – Covers the majority of sequences

Linking chemistry works at both 5' and 3' end – Provides ability to combine with other modifications

Post-conjugation clean-up step – No interference from unbound oligo's

Positive control antibody and oligo included – Enables confirmation of protocol success

A wide range of target proteins – Also applicable to antibody fragments and small proteins.

Notes

This product is manufactured by Expedeon, an Abcam company, and was previously called Thunder-Link[®] Plus Oligo Conjugation Kit. 425-0300 is the same as the 3 x 100 µg size. 425-0000 is the same as the 1 x 100 µg size.

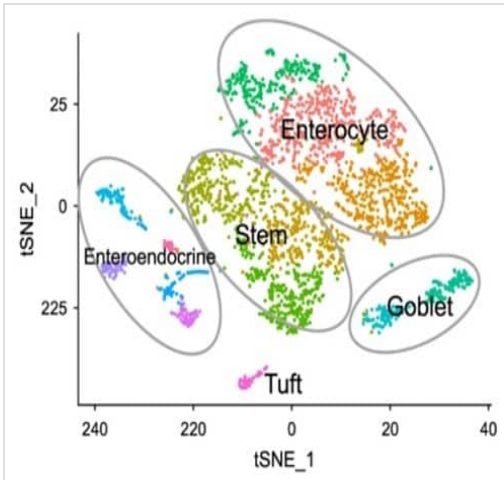
Properties

Storage instructions

Please refer to protocols.

Components	1 x 100 µg	3 x 100 µg
ab274097 - Antibody Activation Reagent	2 vials	4 vials
ab274099 - Antibody Control	1 vial	1 vial
ab274101 - Antibody Suspension Buffer	1 x 500µl	2 x 500µl
ab274100 - Conjugate Clean Up Reagent	1 x 2ml	3 x 2ml
ab273937 - NAP-5 Column	4 units	8 units
ab274096 - Oligonucleotide Activation Reagent	2 vials	4 vials
ab274098 - Oligonucleotide Control	1 vial	1 vial
ab274102 - Wash Buffer	1 x 80ml	1 x 160ml

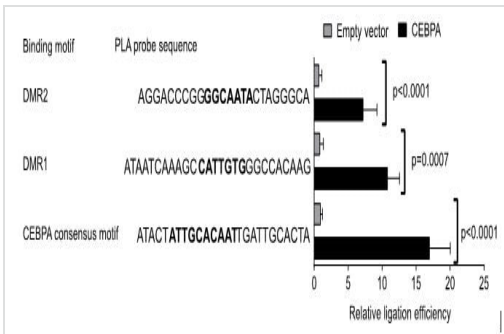
Images



Conjugation - Oligonucleotide Conjugation Kit (ab218260)

Image from Cortez et al., Nat Commun., 11(1):2097; doi: 10.1038/s41467-020-15999-y. Reproduced under the Creative Commons license <https://creativecommons.org/licenses/by/4.0/>

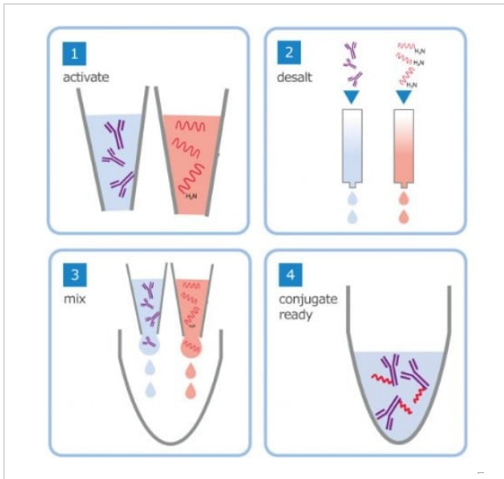
Cortez, Valerie, et al used Oligonucleotide Conjugation Kit (ab218260) as part of examining infection of intestine by the murine astrovirus (MuAstV). They used the kit to conjugate Oligonucleotide to anti-PE antibodies for use in single-cell RNA-sequencing. Duodenums were collected from infected and uninfected C57BL6 mice at 6 days post MuAstV infection (n=?4/group) and prepared for single-cell RNA-sequencing. To label cells from each mouse within the infection groups and enable multiplexing, cells were incubated with custom-designed hashtag oligos (HTO) conjugated to anti-PE antibodies using the Oligonucleotide Conjugation Kit (ab218260). The image shows the resulting aggregated data of all duodenal epithelial cells (n=?2973 individual cells) from both infected and uninfected (n=?4 mice/group) as represented by t-SNE clustering and colored according to unique cell cluster based on transcriptional profiling.



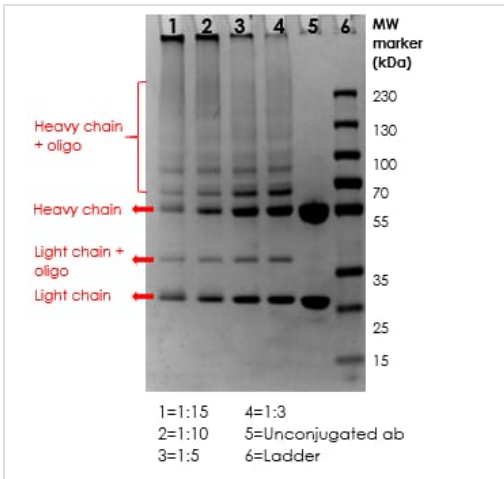
Conjugation - Oligonucleotide Conjugation Kit (ab218260)

Image from Weigel et al., Clin Epigenetics, 11(1):67; doi: 10.1186/s13148-019-0666-5. Reproduced under the Creative Commons license <https://creativecommons.org/licenses/by/4.0/>

Weigel, Christoph, et al used Oligonucleotide Conjugation Kit (ab218260) as part of examining intragenic methylation loss at the three prime repair exonuclease 2 (TREX2) in laryngeal and colorectal cancer. They used the kit to conjugate DNA oligos to anti-FLAG antibody for use in proximity ligation assay. Bar chart with relative ligation efficiencies of CEBPA oligonucleotides incubated with protein extract from CEBPA-overexpressing HEK293T cells (CEBPA) versus Empty vector-transfected cell extracts. Mean and standard deviation of quadruplicate experiments is shown. Binding motifs (bold) and respective ligated oligonucleotide sequences are depicted to the left

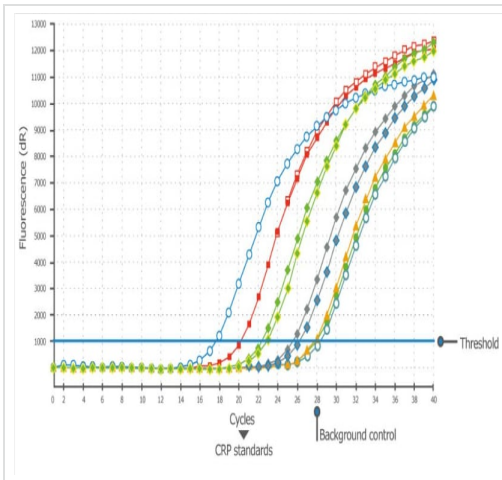


Overview of conjugation with Oligonucleotide Conjugation Kit (ab218260).



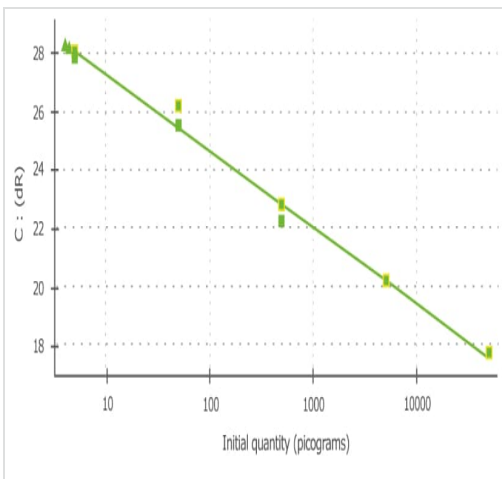
Oligonucleotide Conjugation Kit (ab218260)
Reducing SDS-PAGE after Oligonucleotide Conjugation

A 4-12% reducing gel confirming conjugation between a rabbit IgG and a 30mer oligo done with the Oligonucleotide Conjugation Kit (ab218260). Four different antibody : oligo ratios were tested. 5 µg of conjugate was used for each well.



Oligonucleotide Conjugation Kit (ab218260)

Immuno-qPCR data prepared with the Oligonucleotide Conjugation Kit (ab218260). The graph shows the number of PCR cycles undertaken vs. fluorescence intensity generated by SYBR Green containing PCR probes at particular antigen concentrations. A mouse monoclonal antibody specific for human CRP (clone C7) was purchased in unconjugated format from HyTest. The antibody was conjugated to an oligonucleotide using the Oligonucleotide Conjugation Kit, and was used as a detection antibody in a sandwich immuno-PCR assay with a polyclonal anti-CRP antibody as the capture reagent.



Oligonucleotide Conjugation Kit (ab218260)

Data from the same experiment was converted to antigen amount vs. cycle number to enable the calculation of a standard curve. The results show that the assay utilizes 1000-fold less capture antibody and 100-fold less detection antibody, and provides 1000-fold greater sensitivity than the equivalent ELISA.

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