

MagicLink™ Oligo-Streptavidin Conjugation Kit

Components		Product size			Storage
		BP-50139	BP-50140	BP-50141	
		1 x 100 µg	3 x 100 µg	1 x 1 mg	
A	MAGIC NHS	1	3	1	-20°C
B	LINK activated Streptavidin	1 x100 µg	3 x 100 µg	1x 1 mg	-20°C
C	Reaction Buffer	15 ml	15 ml	15 ml	4-8°C
D	Protein concentrator (3K)	1	3	1	Room temperature
	Protein concentrator (10K)	1	3	1	

Note:

- The kit is shipped by blue ice.
- Upon receipt, components A and B must be stored at -20°C. Warm all the components and centrifuge the vials briefly before opening.

Overview

MagicLink™ Oligo-Streptavidin Conjugation Kit is a new generation of conjugation kit which features the most stable linkage between streptavidin and oligonucleotide on the market to date. The kit enables instant conjugation of pre-activated streptavidin to oligo.

Features:

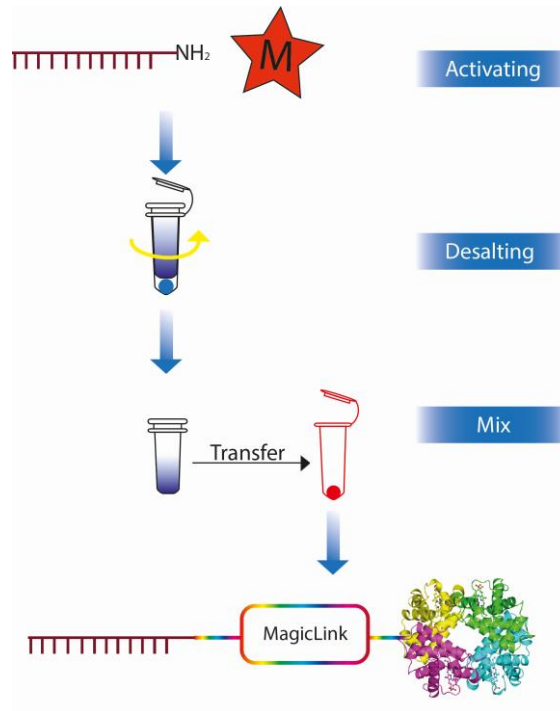
- High conjugation efficiency around 95-100%.
- Instant reaction.
- Most stable covalent bonded conjugates on the market.
- Consistent from batch to batch.
- No DTT, TCEP, or reducing agents needed.

The kit format is based on an instant reaction between functional groups MAGIC and LINK at ambient temperature. By following the easy protocol provided, the end users can label their oligo of choice with MAGIC NHS to get MAGIC-oligo that instantly react with LINK pre-activated streptavidin (provided in the kit) to achieve oligo-streptavidin conjugates.

At a Glance

Protocol summary

1. Prepare oligo in reaction buffer
2. Transfer oligo solution to a MAGIC NHS vial.
3. Incubate at room temperature for 1 hour.
4. Remove excess MAGIC acid from labeled MAGIC-oligo by centrifugal protein concentrator.
5. Add MAGIC-oligo to a LINK-streptavidin vial.
6. Incubate at room temperature for 1 hour.
7. Storage.



Preparation of Working Solution

Pre-conjugation considerations for the oligo.

- For 100 μg kit, suggested oligo mass to be around 5 nmol with a concentration range between 100 – 200 μM in reaction buffer
- For 1 mg kit, suggested oligo mass ~ 50 nmol with a concentration range between 100 – 200 μM in reaction buffer

Oligo Activation

Transfer the oligo working solution to a MAGIC NHS vial (component A). Mix them well by repeatedly pipetting for a few times or vortex the vial for a few seconds. Keep the MAGIC oligo reaction mixture at room temperature 1 hour. The mixture can be rotated or shaken for longer time if needed.

Desalt of the MAGIC-Oligo Solution

Use 3K MWCO concentrator:

1. Hydrate concentrator membrane 'filter device' with ~ 500 μl of reaction buffer or DI water, and microcentrifuge at 14,000 x g, for 1 minutes. Discard, liquid from filter device and collection tube.
2. Spin down by adding MAGIC-oligo to the concentrator/filter device up to 500 μl . Microcentrifuge at 14,000 x g, ~ 8 – 10 minutes, or to minimum volume ~ 50 μl left in the filter device. Discard the waste from the collection tube.

3. Desalt by adding reaction buffer to the filter device up to 500 μ l. Microcentrifuge at 14,000 x g, ~8 – 10 minutes, or to minimum volume ~ 50 μ l left in the filter device. Discard the waste from the collection tube.
4. Repeat step 3, twice.
5. Collect purified MAGIC-oligo from filter device into a microcentrifuge tube.
6. Optional for maximum recovery, add reaction buffer, volume determined by the user, to the filter device to rinse out residual MAGIC-oligo. Microcentrifuge pulse spin, collect MAGIC-oligo/reaction buffer from filter device, add to the microcentrifuge tube from step 5, and mix.

MAGIC LINK Oligo-Streptavidin Conjugation

1. Add purified MAGIC-oligo to a vial of LINK-Streptavidin (component B, 1.7 nmol supplied for 100 μ g kit, 17 nmol for 1 mg kit).

Note: For the ratio of oligo/ Streptavidin, the end user can decide what meet their needs. In some cases, the conjugates with different ratio oligo/ streptavidin may be needed for screening purpose.

2. Keep the reaction mixture at room temperature for 1 hour. The mixture can be rotated or shaken for longer time if needed.

The oligo-streptavidin conjugate is now ready to use. You may also purify the conjugate to remove any unbound oligos if this is required for your application, use Amicon Ultra-0.5 10K MWCO, and follow manufacturer’s instruction. High purify of the oligo-streptavidin conjugates can be performed by ion-exchange chromatography (IEX) if needed. For immediate use, the conjugate may be diluted with the buffer of your choice. For longer term storage, the conjugate solution may need to be concentrated, aliquoted, or freeze dried.

Storage of Oligo-Streptavidin Conjugate

For longer storage, the conjugate could be lyophilized and stored at ≤ -20 °C.

Troubleshooting

Problem	Possible cause	Solution
Low or no MAGIC conjugation	Buffer containing primary amine	Buffer exchange the oligo into a non-amine-containing buffer such as reaction buffer provided, or 1X PBS by desalting columns or dialysis
	MAGIC NHS was hydrolyzed	Use reagent immediately upon reconstitution