FT-FV6981

Hydrazone chemistry reagents
Silane- , Amidite- crosslinkers

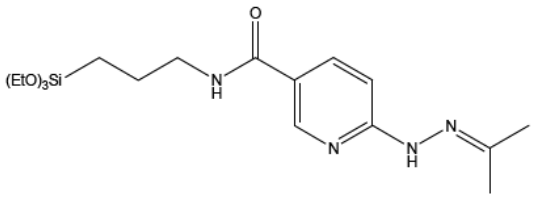
Products Description

. Linkers to incorporate hydrazone chemistry functional groups (HyNic, 4FB) on silica/glass or oligonucleotides

HyNic-silane

FV6981, 25mg

Hydrazine Silane
MW 396.56
Store desiccated at or below room temperature (packed under inert atmosphere)(Z)

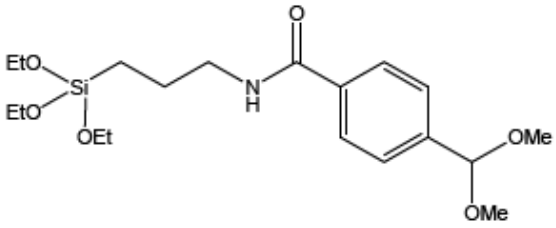


Used for incorporation of HyNic linkers on silica/glass surfaces. Should be used in conjunction with 4FB modified biomolecules for the immobilization of biomolecules to glass surfaces. The HyNic-4FB conjugation reaction is catalyzed by the addition of the TurboLink Catalyst Buffer HT1820.

4FB Silane

FV6971, 25mg

3-N-(4-(dimethoxymethyl)benzamido) propyltriethyoxysilane.
MW 399.55.
Store desiccated at or below room temperature (packed under inert atmosphere)(Z)



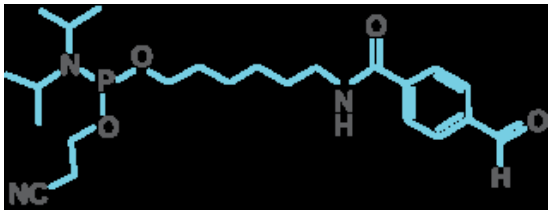
Used for incorporation of 4FB linkers on silica/glass surfaces. Should be used in conjunction with HyNic modified biomolecules for the immobilization of biomolecules to glass surfaces. The HyNic-4FB conjugation reaction is catalyzed by the addition of the TurboLink Catalyst Buffer.
NOTE: The dimethoxyacetal spontaneous hydrolyzes on exposure to water to form the aldehyde

See also SANH activated Glass Slides #DZ1381

4FB Amidite

FV7031, 250mg

Store desiccated at or below room temperature (packed under inert atmosphere)(Z)



Direct incorporation of 4FB (4-formylbenzamide) moieties on oligonucleotides during solid phase synthesis. 4FB-modified oligonucleotides conjugate to HyNic-modified proteins and surfaces. HyNic (6-hydrazinonicotinamide) moieties can be readily incorporated on proteins and other amino biomolecules and surfaces using SANH (S-HyNic) #BL9270.

Ask also for HyLink glass slides coated with HyNic moieties for extremely efficient immobilization of 4-FB oligonucleotides

Technical and Scientific Information

HyNic/4FB crosslinking technology uses hydrazone chemistry to make conjugation easy to use, efficient, making better conjugates, while being applicable to almost any conjugation project. Highly selectivity, and non susceptibility to non-specific binding, makes it superior to conventional methods.

BENEFITS - **Better Results with Efficient, Easy-To-Use Technology**

- Easy to use
- >80% efficient conjugations
- Super stable conjugates-10x better stability than any other crosslinker
- Can crosslink any biomolecules or surface
- Quantifiable conjugates
- Purification columns included

FEATURES -What makes Hydrazone Chemistry CrossLinking better?

- **Traceability**
  The bond formed with HyNic and 4FB absorbs at 354 nm with a molar extinction coefficient of 29 000.
- **Reproducibility**
  Biomolecule modification can be quantified for greater batch-to-batch reproducibility.
- **Linker Stability**
  Biomolecules modified with HyNic and 4FB have extended reaction stabilities.
- **Bond Stability**
  Bonds are stable to temperatures up to 94°C and a wide pH range of pH 2–11.
- **Specificity**
  Solulink crosslinking assures formation of heteroconjugates, with no formation of homoconjugates. Reactive linkers on modified biomolecules are inert and do not react with protein functional groups.

Directions for use

HyNic-Silane Coating of Silica Surface

Silica Beads Modification Protocol .

1) Weigh out 100 mg of silica beads.

2) Wash the silica beads 3 times with EtOH; pellet the bead on a centrifuge for 2 minutes at 750g, remove the supernatant. Bring the beads up in EtOH and repeat.

3) Make a 2% solution of HyNic Silane (10 mg) in EtOH (500 µL), add 2% (10 µL) water to the solution to dissolve any remaining solids. This may require intensive vortexing to get the silane into solution.

4) Add the HyNic Silane solution to the washed bead pellet so the silane/silica ratio is 20% w/v (500 µL).

5) Vortex the bead sample and incubate at room temperature on a rotator for 30 minutes.

Note: Check the pH periodically with pH paper and be sure that it doesn't go below pH 7.4 during the incubation steps!! Bring the pH to above 7.4 with 1M NaOH if the pH drops.

6) Add an additional 2% (10 µL) water to the bead solution and continue the incubation for 15 minutes.

7)Add additional 10% (50 µL) water to the bead solution and continue the incubation for 5 minutes.

8) The washing step is very important: Wash the beads 3X each with water, ethanol, water, PBS and Conjugation Buffer (100 mM sodium phosphate, 150mM NaCl, pH 6.0) in that order, using the spin protocol from step 2.

9) Check the supernatant to see if there is a significant A_{280} from the HyNic Silane; add 100 µL of supernatant to 900 µL of Buffer. The A280 should give a reading no higher that 0.05.

10) Bring the beads up in Conjugation Buffer such that the solution is a 20% w/v beads in Conjugation Buffer.

The HyNic-modified beads are now ready to be conjugated to the 4FB-modified biomolecule.

Note 1: For large biomolecules (proteins and antibodies), 20µg of protein/mg of bead is recommended for maximum conjugation. Allow the HyNic-modified beads to conjugate with the 4FB biomolecules in the presence of TurboLink Catalyst Buffer for 4 hours at room temperature on a rotor or shaker.

Note 2: The HyNic functional group is only stable for a few days on the glass surface. For best results the HyNic-modified beads should be reacted right away with the 4FB-modified biomolecule.

Related / associated products and documents

*Crosslinkers to activate partner molecules:

- 2HP #O19022 (used to quantitate the level of aldehyde modification)
- TurboLink #HT1820
- 4NBA #BL9650 (used to quantitate the level of hydrazide and hydrazine modification)
- SFB #M11771 and analogs (used to introduce 4FB) See at SANH & MHPH, SFB & MTFB reagents

  SANH #BL9270, MHPH #BL9401 and analogs (used to introduce HyNic)

*Other Crosslinkers:

▪ Heterobifunctional crosslinkers: NHS-MAL reagents, i.e. NHS-PEO-MAL AL6581 and SMCC #17412A
▪ Homobifunctional crosslinkers: NHS-NHS reagents, i.e. NHS-PEO-NHS and DSS #54940A
▪ Homobifunctional crosslinkers: MAL-MAL reagents, i.e. MAL-PEO-MAL (like BMOE #L7730A)
▪ PEO Linkers & modifiers , i.e. MAL-COOH 43064A and BMPA #43064A, and others AN1280
▪ PhotoActivable (PA) crosslinkers: SH and PA reactive i.e. SCBP #BI1361,...
▪ SMCC-hydrazide #BI1281
▪ Hydrazine-Silane #BL9420

*Desalting tools:

▪CelluSep dialysis tubings
▪Desalting gelfiltration columns #UP84874

*Buffers:

▪Buffers: PBS(Phosphate Buffer Saline) #68723A, TBS(Tris Buffer Saline) #74004A
▪AEBS #401070 and other protease inhibitors, SodiumAzide #08112A and other preservatives

For any information, please contact Uptima, or your local distributor.
213 av.J.F.Kennedy, 03103 Montluçon, fax : ++(0)4 70 03 82 60, hotline Interbiotech : +33 (0)4 70 03 76 06

Ordering information

For use *in vitro* only, not for diagnostic.

Catalog size quantities and prices may be found at http://www.interchim.com.
Please inquire for higher quantities (availability, shipment conditions).

For any information, please ask : Uptima / Interchim; Hotline : +33(0)4 70 03 73 06