

Couplage SHTH Conjugation Kit

Biomolecule conjugation chemistry

Catalog #	Source:	Lot #	Size:
KT1000b	chemicals	SD050502B	10 rxns
Concentration:	Accession:	Clone Name:	Isotype:
Powder		S9003	
Applications:		Reactivity:	MW (kDa):

Target/Specificity:

Other Names:

Application Data:



This product is offered at a low price as part of the Abgent Product Investigation Program. Additionally, submit your positive data for this or any Abgent antibody to our [Data Rewards Program](#) and receive a free gift.

Background:

Couplage is a novel bioconjugation system using the HydraLink technology for the conjugation and immobilization of peptides, proteins, carbohydrates and DNA/RNA. The conjugation chemistry is simple to perform, stable in solution, highly selective for heteroconjugation, and does not lead to non-specific conjugation. Moreover, biomolecules with reactive moieties can be prepared ahead of time, stored, and used as needed for subsequent conjugations, making the HydraLink technology superior to current methods of bioconjugation such as maleimide/thiol and avidin/biotin. Applications include conjugation of peptide to a carrier protein for antibody production, biomolecule labeling with fluorophore for detection, biomolecule immobilization to solid support (bead, glass, silica) for arrays, and many more. The Couplage Bioconjugation System is based on the reaction of a hydrazine and an aldehyde or ketone yielding a stable hydrazone. Biomolecules are first modified with hydrazine and aldehyde modification reagents that are reactive with primary amine groups (-NH₂) such as those present on the side chains of lysine residues and the N-termini of proteins. Then, the modified biomolecules are simply mixed together to yield the hydrazone-mediated conjugate by eliminating a water molecule. Specifically, the HydraLink chemistry is based on the reaction of a 2-hydrazinopyridyl moiety with a benzaldehyde moiety, yielding a stable bis-aromatic hydrazone. The benzaldehyde moiety is incorporated on proteins and surfaces with SFB (succinimidyl 4-formylbenzoate). Two reagents, SANH and SHTH, are available to incorporate respectively 2-hydrazinopyridine and 4-hydrazidoterephthalate moieties on biomolecules and surfaces. The hydrazine group in SANH (succinimidyl 2-hydrazinonicotinate acetone hydrazone) is protected as its acetone hydrazone. This alkyl hydrazone is not stable in mild acid and rapidly exchanges with an aromatic aldehyde during conjugation, yielding a stable bis-aromatic hydrazone. The SHTH chemistry (succinimidyl 4-hydrazidoterephthalate hydrochloride) converts amine groups to aromatic hydrazide groups that can form stable bis-aryl hydrazide hydrazones. The SHTH chemistry yields an even more stable modified biomolecule than the SANH chemistry.

Background References:

Product Citations:

Application Notes:

Format:

The Couplage SHTH Kit contains 15 mg SHTH, 100 mg SFB, 100 mg 4-nitrobenzaldehyde, 50 mg 2-hydrazinopyridine.2HCl and 50 mg 2-sulfobenzaldehyde as desiccated powder.

Storage:

Keep desiccated at room temperature.

Precautions:

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