



aldehyde-, amino-, and hydroxyl-silanes couple DNA in array technology

Silane Coupling Agents for Biomaterials Selection Chart

	Site/ Type	Coupling Class	Co-reactant	Suggestions for Screening	
	Oligonucleotides	hydroxyl diamine semicarbazide	cobalt ethylenediamine	SIB1140.0 SIA0591.0 SIS6944.0	
				<p>G. McCall et al, J. Am. Chem. Soc., 119, 5081, 1997. F. Chow, in "Silylated Surfaces" D. Leyden ed., Gordon & Breach, 1978, p.301. M. Podyminogin et al, Nucleic Acid Res., 2001, 29, 5090.</p>	
	DNA	terminal favored pendant amine pendant amine pendant amine	vinyl/olefin aldehyde diamine epoxy	SIO6708.0 SIT8194.0 SIA0594.0 SIE4675.0	SIU9049.0 SID3543.0 SIG5838.0
				<p>A. Bensimon, Science, 265, 2096, 1994. J. Grobe et al, J. Chem. Soc. Chem. Commun, 2323, 1995. C. Kneuer et al, Int'l J. Pharmaceutics, 196(2), 257, 2000.</p>	
	Protein	lysine lysine lysine cysteine tyrosine heparinated immunoglobulin antibody	aldehyde amine amine sulfur nitrobenzamide amine/quat pyridyl-thio cyano	glutaraldehyde thiophosgene dithionite NaNO ₂ /HCl	SIT8194.0 SIA0611.0 SIA0611.0 SIM6476.0 SIT8191.0 SSP-060 SIT8415.0 SIP6926.4 SIC2456.0
				<p>J. Grobe et al, J. Chem. Soc. Chem. Commun, 2323, 1995. H. Weetall, US Pat. 3,652,761. G. Royer, CHEMTECH, 4, 699, 1974. S. Bhatia et al, Anal. Biochem., 178, 408, 1989. J. Venter et al, Proc. Nat. Acad. Soc., 69(5), 1141, 1972. R. Merker et al, Proc. Artificial Heart Prog. Conf., June 9-13, 1969 HEWNIH, p29. S. Falipou, Fundamental & Applied Aspects of Chemically Modified Surfaces, p389, 1999.</p>	
	Cell-Organelle	chloroplast mitochondria	alkyl alkyl	SIO6645.0 SIO6645.0	
				<p>B. Arkles et al, in "Silylated Surfaces" D. Leyden ed., Gordon & Breach, 1978, p363. B. Arkles et al, J. Biol. Chem., 250, 8856, 1975.</p>	
	Whole Cell	erythrocytes	short alkyl	SIE4901.4	
				<p>B. Arkles et al, in "Silylated Surfaces" D. Leyden ed., Gordon & Breach, 1978, p363.</p>	
	Whole Cell (causing lysis)	prokaryotic	alkyl-quat	SIO6620.0 SID3392.0	
				<p>W. White et al in "Silanes, Surfaces & Interfaces" ed. D. Leyden, Gordon & Breach, 1986, p. 107.</p>	
	Tissue	histological examples		SIA0611.0 SIA0610.0	