Specification

SSC buffer (20X) for molecular biology A1396

Physical Description:	Liquid
Product Code:	A1396
Product Name:	SSC buffer (20X) for molecular biology
Short Description:	additional product description: 20X concentrated aqueous solution
Specifications:	DNases/RNases/Proteases: not detectable pH (20°C; adjusted with HCl): 7.0 ± 0.2 **Composition:** *tri*-Sodium Citrate: 88.23 g/L (0.3 M) Sodium Chloride: 175.32 g/L (3 M)
WGK:	1
Storage:	RT
CS:	38220000

Comment

There are two major applications of SSC. This buffer is used for the denaturation of DNA for the screening of DNA libraries (e.g. genomic, cDNA or YAC library). The probe for screening the library will only bind to the immobilized DNA of the library, if this DNA is in a single stranded state. The commonly used working concentration is 2X SSC (Ref. 4, e.g. p. 6.1.3).The second major application is the use of SSC as transfer buffer for the blotting of DNA after agarose or polyacrylamide gel electrophoresis onto nitrocellulose or nylon membranes (Southern-Blot). In case of using nitrocellulose membranes, a high SSC concentration (20X; high ionic strength) should be employed, since smaller DNA fragments might be lost at concentrations of 10X SSC or below. A good result for nylon membranes can be expected using 20X and 10X SSC. Depending on the brand of the nylon membrane other conditions may result in better hybridization rates (e. g. positive charged membranes with an alkaline transfer buffer).If used as a transfer buffer, it is not necessary to filter SSC, but when used as in hybridization solutions, it is essential to filter SSC before use. SSC buffer from AppliChem will be filtered principally. SSC buffer may be replaced with the same concentration of SSPE buffer (A1397) in all experiments. SSPE has a greater buffering capacity. The buffering power of SSC can be increased by adding 0.3 % (w/v) sodium pyrophosphate.In references 3 and 4 several techniques are described in detail:**Ref. 3**:Southern blotting (pp. 6.41-6.58)Northern hybridization (pp. 7.36-7.44)Dot and slot hybridization (pp. 7.48-7.50)**Ref. 4**:Southern blotting (pp. 2.9.1-2.9.15 Supplement 21)Dot and slot blotting (pp. 2.9.15-2.9.20 Supplement 21)Hybridization analysis of DNA blots (pp. 2.10.1-2.10.16 Supplement 21)Screening of recombinant DNA libraries (Chapter 6; Hybridization with radioactive probes pp. 6.3.1-6.3.6; Using synthetic oligonucleotides as probes6.4.1-6.4.3 Supplement 13)

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Bibliography

(1)Southern, E.M. (1975) *J. Mol. Biol.* **98**, 503-517Detection of specific sequences of DNA-fragments after gel electrophoresis. (2)Chomczynski, P. (1992) *Anal. Biochem.* **201**, 134-139Alkaline capillary transfer for blotting of DNA and RNA. (3)Sambrook, J. & Russel, D.W. (2001) *Molecular Cloning\:* A Laboratory Manual, 3rd Edition. Page A1.14. Cold Spring Harbor Laboratory Press, Cold Spring Harbor, New York. (4)Ausubel, F.A., Brent, R., Kingston, R.E., Moore, D.D., Seidman, J.G., Smith, J.A. & Struhl, K. (eds.) (2001) *Current Protocols in Molecular Biology.* Page A.2.5 (Suppl. 40) Greene Publishing & Wiley-Interscience, New York. (5)Nagamine, Y. *et al*. (1980) *Nucleic Acids Res.* **8**, 2453-2460Selective blotting of restriction DNA fragments on nitrocellulose at low salt concentrations.

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