

Sorption of microorganisms by wide-porous agarose cryogels containing grafted aliphatic chains of different length

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Abstract

The possibility of fractionation of heterogeneous bacterial populations using wide-porous agarose cryogels containing grafted aliphatic groups with the chain lengths of 4, 7, and 12 carbon atoms was demonstrated for the first time. The maximum sorption of vegetative cells of gram-positive bacteria (60%) was shown for the polymeric carrier with the chain length of 4 carbon atoms, while the hypometabolic cells appearing in the population after prolonged (60-day) cultivation were trapped by wide-porous affinity sorbents with C7- and C12- aliphatic groups much better than vegetative cells. © Pleiades Publishing, Ltd 2009.

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Keywords

Gram-negative bacteria, Gram-positive bacteria, Heterogenic populations, Hydrophobized agarose cryogels, Hypometabolic forms, Sorption