Magnetic Microspheres

Cat.No.:HYC124

Product Description

Magnetic bead-based nucleic acid purification technology uses nano-micron superparamagnetic materials as the matrix, generally black ferroferric oxide or yellow-brown ferric oxide as the magnetic material. The surface of the microbeads is coated with appropriate functional groups, which can react with nucleic acids for adsorption. Magnetic beads commonly used for nucleic acids include carboxyl-containing magnetic beads, hydroxyl-containing magnetic beads, and silanol-containing magnetic beads. Silicon dioxide containing silanol in the base is the most common, and its principle of adsorbing nucleic acids is consistent with the classic glass milk purification technology or glass fiber filter membrane purification method. Magnetic Microspheres is a polydisperse fast silica magnetic bead with a core of ferroferric oxide, accounting for 60%, and a surface coated with silica, accounting for 40%. This product can be used for plasmid extraction, gel DNA recovery, product purification, genomic DNA and RNA extraction, and viral nucleic acid extraction.

Components

Components	Size-1	Size-2	Size-3
Magnetic Microspheres (100mg/ml)	5mL	100mL	380mL

Storage

Store at 2-8℃, valid for 24 months.

Purification Principle

1. **High salt-mediated binding:** In a solution containing 2-4M guanidine isothiocyanate, Magnetic Microspheres can selectively recover DNA molecules, and impurities such as proteins and polysaccharides are not adsorbed.
2. **Alcohol-mediated binding:** In a solution containing guanidine salts and alcohols (~25%), Magnetic Microspheres can selectively recover DNA/RNA molecules, and impurities such as proteins are not adsorbed. After the biological sample is treated with digestion solution or lysis solution, DNA/RNA is released from the cell, organelles, and protein complexes (ribosomes,

nucleosomes) into the reagent. After adding Magnetic Microspheres and binding solution, DNA/RNA is adsorbed to the surface of Magnetic Microspheres to form a DNA-magnetic bead complex. Under the action of the magnetic field, the magnetic beads are separated and collected, and impurities such as proteins are removed with the waste liquid. After two or three steps of further washing, the DNA-magnetic bead complex is resuspended in sterile water or TE Buffer, and the DNA falls off the surface of the magnetic beads, thereby achieving the purpose of purification.

Specification

Magnetic bead concentration	100mg/ml
Appearance	Suspension of black particles
Surface functional group	Si-OH
Decentrality	Polydisperse amorphous
Particle size	1-3 um
Magnetic response speed	15-30 s
Settling velocity	>3 min
High salt mediated	>2M guanidine thiocyanate, DNA recovery rate up to 80%
Alcohol mediated	2M Guanidine HCl/isopropanol (30%), DNA/RNA recovery up to 85%
PEG8000 mediated binding	DNA/RNA recovery rate is as high as 85%.
DNase/RNase	undetected
DNA redisue	<1ppm
Recommended application	Plasmid extraction, gel DNA recovery, genomic DNA extraction, RNA extraction