CLAIMS

1. An ion-exchange chromatography packing for separation and/or detection of methylated DNA, comprising a base particle consisting of a hydrophobic crosslinked copolymer particle and having a cationic functional group on a surface, wherein the hydrophobic crosslinked copolymer contains a divinyl aromatic monomer, a non-aromatic hydrophobic crosslinked monomer having two or more vinyl groups, and a monomer having a reactive functional group.

2. The ion-exchange chromatography packing according to claim 1, wherein the divinyl aromatic monomer is selected from the group consisting of divinylbenzene, divinylnaphthalene, divinylanthracene, divinyltoluene, divinylxylene, and divinylbiphenyl.

3. The ion-exchange chromatography packing according to claim 1 or 2, wherein the reactive functional group is a glycidyl group or an isocyanate group.

4. The ion-exchange chromatography packing according to any one of claims 1 to 3, wherein the non-aromatic hydrophobic crosslinked monomer having two or more vinyl groups is at least one selected from the group consisting of diethylene glycol dimethacrylate, triethylene glycol dimethacrylate, tetraethylene glycol dimethacrylate, trimethylol methane trimethacrylate, tetramethylol methane trimethacrylate, diethylene glycol diacrylate, triethylene glycol diacrylate, tetraethylene glycol diacrylate, trimethylol methane triacrylate, and tetramethylol methane

triacrylate.

5. The ion-exchange chromatography packing according to any one of claims 1 to 4, wherein the hydrophobic crosslinked copolymer contains 3% to 15% by mass of the divinyl aromatic monomer, 40% to 70% by mass of the non-aromatic hydrophobic crosslinked monomer, and 10% to 50% by mass of the monomer having the reactive functional group in the total mass.

6. The ion-exchange chromatography packing according to any one of claims 1 to 5, wherein the hydrophobic crosslinked copolymer further contains 0% to 5% by mass of a hydrophobic non-crosslinked monomer in the total mass.

7. The ion-exchange chromatography packing according to claim 6, wherein the ratio of (A) the divinyl aromatic monomer, (B) the non-aromatic hydrophobic crosslinked monomer, (C) the monomer having the reactive functional group and (D) the hydrophobic non-crosslinked copolymer in the hydrophobic crosslinked copolymer is (A): (B) : (C) : (D)=5 to 12 :55 to 65 : 20 to 35 : 0 to 5 (wherein (A) + (B) + (C) + (D) = 100) in mass ratio.

8. The ion-exchange chromatography packing according to any one of claims 1 to 7, wherein the divinyl aromatic monomer is divinylbenzene.

9. The ion-exchange chromatography packing according to claim 8, wherein the divinyl aromatic monomer is divinylbenzene, the non-aromatic hydrophobic crosslinked monomer is at least one selected from the group consisting

of triethylene glycol dimethacrylate, trimethylol methane triacrylate and pentaerythritol triacrylate, the monomer having the reactive functional group is glycidyl methacrylate or isocyanate ethyl methacrylate, and the hydrophobic non-crosslinked monomer is not contained or is styrene.

10. The ion-exchange chromatography packing according to any one of claims 1 to 9, wherein the cationic functional groups are a strong cationic group and a weak cationic group.

11. The ion-exchange chromatography packing according to claim 10, wherein the strong cationic group is a quaternary ammonium group and the weak cationic group is a tertiary amino group.

12. The ion-exchange chromatography packing according to claim 10 or 11, wherein the base particle has a polymer layer having the strong cationic group and the weak cationic group on the surface.

13. An ion-exchange chromatography column for separation and/or detection of methylated DNA containing the ion-exchange chromatography packing according to any one of claims 1 to 12.

14. A method for separating and/or detecting methylated DNA using the ion-exchange chromatography packing according to any one of claims 1 to 12.