ABSTRACT

OXIDIZED AVIDIN WITH HIGH RESIDENCY TIME IN THE TREATED TISSUES

The present invention describes chemically modified avidins that have higher permanence in treated tissues compared to wild type avidin. Avidin oxidation is performed by periodate incubation in the presence of the low affinity ligand HABA which, occupying the biotin binding sites, prevents protein denaturation during the oxidation step. Periodate oxidation generates CHO groups from avidin mannose ring opening that, once injected, react with tissue NH_2 residues to form stable Schiff's bases. The anchored avidins maintain the ability to bind biotinylated agents endowed of therapeutic activity, like radiolabeled biotins, stem cells and somatic cells, useful for brachytherapies like Intraoperative Avidination Radionuclide Therapy (IART®) or degenerative or genetic diseases.

Figure 1