specific delivery platform components. The alpha particle emitting radioisotope-delivery platforms of the present invention provide shorter half-lives compared to traditional IgGs, but longer half-lives than smaller monomeric antibody fragment formats. Such half-lives allow for a reduction in toxicity due to the alpha emitter, while preserving the antibody fragment long enough in the body to exert therapeutic activity. For example, the alpha particle emitting radioisotope-delivery platforms of the current disclosure exhibit enhanced tumor targeting and reduced accumulation in radiosensitive tissues such as the bone-marrow and kidney. Further and surprisingly, the alpha particle emitting radioisotope-delivery platforms of the present invention exhibit excellent tumor binding and labeling properties for tumors with different antigen densities, which can be a limitation for some use of some immunoconjugates.

[0007a] Described herein, in one aspect, is an immunoconjugate comprising an: a) antigen binding region; b) an immunoglobulin heavy chain constant region; and c) a chelating agent; wherein the molecular weight of the immunoconjugate is between 60 and 110 kDa, wherein the immunoglobulin chain constant region comprises an alteration to one or more amino acid residues that reduces binding of the immunoconjugate to the neonatal Fc receptor (FcRn).

[0007b] In another aspect, described herein is the use of the immunoconjugate provided herein in the manufacture of a pharmaceutical composition for treating a cancer or a tumor in an individual.

[0007c] In another aspect, described herein is the use of the immunoconjugate provided herein in the manufacture of a pharmaceutical composition for delivering a radioisotope to a cancer cell or a tumor cell in an individual.

[0007d] In yet another aspect, described herein is the use of the immunoconjugate provided herein in the manufacture of a pharmaceutical composition for imaging a tumor in an individual.

[0007e] In another aspect, described herein is the immunoconjugate provided herein for use in therapy.

[0008] Described herein in one aspect is an immunoconjugate comprising an: a) antigen binding region; b) an immunoglobulin heavy chain constant region; and c) a chelating agent; wherein the molecular weight of the immunoconjugate is between 60 and 110 kDa. In certain embodiments, the antigen binding region comprises an scFv polypeptide or a VHH polypeptide. In certain embodiments, the antigen binding region comprises an scFv polypeptide. In certain embodiments, the antigen binding region comprises a VHH polypeptide. In certain embodiments, the antigen binding region is humanized. In certain embodiments, rein the antigen binding region specifically binds to HER2 or to DLL3. In certain embodiments, the antigen

binding region specifically binds to HER2. In certain embodiments, the antigen binding region of the immunoconjugate comprises: a) a heavy chain CDR1 comprising the amino acid sequence set forth in SEQ ID NO: 21; b) a heavy chain CDR2 comprising the amino acid sequence set forth in SEQ ID NO: 22; and c) a heavy chain CDR3 comprising the amino acid sequence set forth in SEQ ID NO: 23 and that binds to HER2. In certain embodiments, the antigen binding region of the immunoconjugate comprises a sequence that is at least 85%, 90%, 95%, 97%, 98%, 99%, or 100% identical to the sequence set forth in SEQ ID NO: 20 and that binds to HER2. In certain embodiments, the antigen binding region specifically binds to DLL3. In certain embodiments, the antigen binding region of the immunoconjugate comprises: a) a heavy chain CDR1 comprising the amino acid sequence set forth in SEQ ID NO: 31; b) a heavy chain CDR2 comprising the amino acid sequence set forth in SEQ ID NO: 32; and c) a heavy chain CDR3 comprising the amino acid sequence set forth in SEQ ID NO: 33 and that binds to DLL3. In certain embodiments, the antigen binding region of the immunoconjugate comprises a sequence that is at least 85%, 90%, 95%, 97%, 98%, 99%, or 100% identical to the sequence set forth in SEQ ID NO: 30 and that binds to DLL3. In certain embodiments, the immunoglobulin heavy chain constant region comprises a CH2 domain of an immunoglobulin, CH3 domain of an

immunoglobulin, or a CH2 and a CH3 domain of an immunoglobulin. In certain embodiments, the immunoglobulin heavy chain constant region comprises a CH2 and a CH3 domain of an immunoglobulin. In certain embodiments, the immunoglobulin heavy chain constant region is a human immunoglobulin heavy chain constant region. In certain embodiments, the immunoglobulin heavy chain constant region is an IgA, IgG1, IgG2, IgG3, or IgG4 isotype. In certain embodiments, the immunoglobulin heavy chain constant region is an IgG1 isotype. In certain embodiments, the immunoglobulin heavy chain constant region is an IgG4 isotype. In certain embodiments, the immunoglobulin heavy chain constant region comprises an alteration to one or more amino acid residues that reduces an effector function of the immunoglobulin heavy chain constant region or alters binding of the immunoconjugate to the neonatal Fc receptor (FcRn). In certain embodiments, the immunoglobulin heavy chain constant region comprises an alteration to one or more amino acid residues that reduces an effector function of the immunoglobulin heavy chain constant region and alters binding of the immunoconjugate to the neonatal Fc receptor (FcRn). In certain embodiments, the immunoglobulin heavy chain constant region comprises an alteration to one or more amino acid residues that reduces an effector function of the immunoglobulin heavy chain constant region. In certain embodiments, the immunoglobulin heavy chain constant region comprises an alteration to one or more amino acid residues that alters binding of the immunoconjugate to the neonatal Fc receptor (FcRn). In certain embodiments, the alteration to one or more amino acid residues that reduces the effector function of the immunoglobulin heavy chain constant region is an alteration that reduces complement dependent cytotoxicity (CDC), antibody-dependent cell-cytotoxicity (ADCC), antibody-dependent cell-phagocytosis ADCP, or a combination thereof. In certain embodiments, the alteration to one or more amino acid residues that reduces the effector function of the immunoglobulin heavy chain constant region is selected from the list consisting of: (a) 297A, 297Q, 297G, or 297D, (b) 279F, 279K, or 279L, (c) 228P, (d) 235A, 235E, 235G, 235Q, 235R, or 235S, (e) 237A, 237E, 237K, 237N, or 237R, (f) 234A, 234V, or 234F, (g) 233P, (h) 328A, (i) 327Q or 327T, (j) 329A, 329G, 329Y, or 329R (k) 331S, (l) 236F or 236R, (m) 238A, 238E, 238G, 238H, 238I, 238V, 238W, or 238Y, (n) 248A, (o) 254D, 254E, 254G, 254H, 254I, 254N, 254P, 254Q, 254T, or 254V, (p) 255N, (q) 256H, 256K, 256R, or 256V, (r) 264S, (s) 265H, 265K, 265S, 265Y, or 265A, (t) 267G, 267H, 267I, or 267K, (u) 268K, (v) 269N or 269Q, (w) 270A, 270G, 270M, or 270N, (x) 271T, (y) 272N, (z) 292E, 292F, 292G, or 292I, (aa) 293S, (bb) 301W, (cc) 304E, (dd) 311E, 311G, or 311S, (ee) 316F, (ff) 328V, (gg) 330R, (hh) 339E or 339L, (ii) 343I or 343V, (jj) 373A, 373G, or 373S, (kk) 376E, 376W, or 376Y, (ll) 380D, (mm) 382D or 382P, (nn) 385P, (oo) 424H, 424M, or 424V, (pp) 434I, (qq) 438G, (rr) 439E, 439H, or