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# Tositumomab and Iodine I 131

## Tositumomab

National Cancer Institute

### Source

National Cancer Institute. *Tositumomab and Iodine I 131 Tositumomab*. NCI Thesaurus. Code C72672.

A murine IgG2a lambda monoclonal antibody, both unradiolabeled and radiolabeled with iodine I 131, directed against the human B cell-specific surface antigen CD20.

Tositumomab binds to CD20, resulting in complement-dependent cytotoxicity (CDC), antibody-dependent cellular cytotoxicity (ADCC), and apoptosis in B cells expressing CD20; in addition to the antibody-mediated cytotoxicity, iodine I 131 tositumomab delivers cytotoxic ionizing radiation specifically to CD20-expressing B cells. In a two-step therapeutic regimen, a predose of unradiolabeled tositumomab is administered first followed by the administration of a dosimetric dose of iodine I 131 tositumomab; 7-14 days later, a therapeutic dose of iodine I 131 tositumomab is administered. The predose of unradiolabeled tositumomab binds to nontumor B cells, increasing the terminal half-life of radiolabeled antibody while protecting nontumor B cells from radiolabeled antibody-mediated radiocytotoxicity.