

Rhenium-188-labeled anti-neural cell adhesion molecule antibodies with 2-iminothiolane modification for targeting small-cell lung cancer

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We have evaluated the potential of ^{188}Re -labeled monoclonal antibodies (MAbs) modified with 2-iminothiolane (2IT) for targeting small-cell lung cancer (SCLC). Radiolabeled MAbs NK1NBL1 and C218 recognizing neural cell adhesion molecule were injected i.v. into athymic mice inoculated with human SCLC tumors, and the biodistribution was examined. NK1NBL1 localized in the tumors better than C218. ^{188}Re -labeled MAbs cleared from the blood faster than ^{125}I -labeled counterparts, resulting in higher tumor-to-blood ratios. In conclusion, the ^{188}Re -labeled MAbs are attractive candidates for imaging and therapy of SCLC.

Key words: rhenium-188, monoclonal antibody, small-cell lung cancer, neural cell adhesion molecule, 2-iminothiolane