

TABLE 2
Model Sensitivity to Parameter Values

Parameter change*	% change in AUC		
	k (2,1)	k (1,2)	k (0,2)
Median × 2			
Serum	-50	45	-22
Total body	-25	23	-36
Median ÷ 2			
Serum	98	-22	43
Total body	50	-11	69

*Median values: k (2,1) = 0.043, k (1,2) = 0.020, k (0,2) = 0.024 (hr⁻¹).

AUC = area under the curve.

APPENDIX

$$\frac{dAb_1}{dt} = -k(2,1) \cdot Ab_1 + k(1,2) \cdot Ab_2 \quad \text{Eq. A1}$$

$$\frac{dAb_2}{dt} = k(2,1) \cdot Ab_1 - k(1,2) \cdot Ab_2 - k(0,2) \cdot Ab_2 \quad \text{Eq. A2}$$

$$Ab_1 = [Ab_1] \cdot V_d \quad \text{Eq. A3}$$

REFERENCES

- Schlom J, Molinolo A, Simpson JF, et al. Advantage of dose fractionation in monoclonal antibody-targeted radioimmunotherapy. *J Natl Cancer Inst* 1990;82:763-771.
- Buchsbaum D, Khazaeli MB, Liu T, et al. Fractionated radioimmunotherapy of human colon carcinoma xenografts with ¹³¹I-labeled monoclonal antibody CC49. *Cancer Res* 1995;55(suppl):5881s-5887s.
- DeNardo GL, DeNardo SJ, O'Grady LF, Levy NB, Adams GP, Mills SL. Fractionated radioimmunotherapy of B-cell malignancies with ¹³¹I-Lym-1. *Cancer Res* 1990;58(suppl):1014s-1016s.
- Meredith RF, Khazaeli MB, Liu T, et al. Dose fractionation of radiolabeled antibodies in patients with metastatic colon cancer. *J Nucl Med* 1992;33:1648-1653.
- Richman CM, DeNardo SJ, O'Grady LF, DeNardo GL. Radioimmunotherapy for breast cancer using escalating fractionated doses of ¹³¹I-labeled chimeric L6 antibody with peripheral blood progenitor cell transfusions. *Cancer Res* 1995;55(suppl):5916s-5920s.
- Koizumi K, DeNardo GL, DeNardo SJ, et al. Multicompartmental analysis of the kinetics of radioiodinated monoclonal antibody in patients with cancer. *J Nucl Med* 1986;27:1243-1254.
- Eger RR, Covell DG, Carrasquillo JA, et al. Kinetic model for the biodistribution of an indium-111-labeled monoclonal antibody in humans. *Cancer Res* 1987;47:3328-3336.
- Covell DG, Barbet J, Holton OD, Black CDV, Parker RJ, Weinstein JN. Pharmacokinetics of monoclonal immunoglobulin G₁, F(ab')₂, and Fab' in mice. *Cancer Res* 1986;46:3969-3978.
- Rescigno A, Bushe H, Brill AB, Ruszkowski M, Griffin TW, Hnatowich DJ. Pharmacokinetic modeling of radiolabeled antibody distribution in man. *Am J Physiol Imaging* 1990;5:141-150.
- Yuan F, Baxter LT, Jain RK. Pharmacokinetic analysis of two-step approaches using bifunctional and enzyme-conjugated antibodies. *Cancer Res* 1991;51:3119-3130.
- Baxter LT, Yuan F, Jain RK. Pharmacokinetic analysis of the perivascular distribution of bifunctional antibodies and haptens: comparison with experimental data. *Cancer Res* 1992;52:5838-5844.
- van Osdol WW, Sung C, Dedrick RL, Weinstein JN. A distributed pharmacokinetic model of two-step imaging and treatment protocols: application to streptavidin-conjugated monoclonal antibodies and radiolabeled biotin. *J Nucl Med* 1993;34:1552-1564.
- Mulshine JL, Shuke N, Daghighian F, et al. The correct dose: pharmacologically guided end point for anti-growth factor therapy. *Cancer Res* 1992;(suppl):2743s-2746s.
- Sgouros G, Graham MC, Divgi CR, Larson SM, Scheinberg DA. Modeling and dosimetry of monoclonal antibody M195 (anti-CD33) in acute myelogenous leukemia. *J Nucl Med* 1993;34:422-430.
- Sgouros G, Scheinberg DA. The treatment of leukemia with radiolabeled monoclonal antibodies. In: Rosen ST, Kuzel TM, eds. *Immunoconjugate therapy of hematologic malignancies*. Norwell, MA: Kluwer Academic; 1993:23-64.
- Sgouros G. Plasmapheresis in radioimmunotherapy of micrometastases: a mathematical modeling and dosimetric analysis. *J Nucl Med* 1992;33:2167-2179.
- Hartmann C, Bloedow DC, Dienhart DG, et al. A pharmacokinetic model describing the removal of circulating radiolabeled antibody by extracorporeal immunoabsorption. *J Pharmacokin Biopharma* 1991;19:385-403.
- Norrgren K, Strand S, Ingvar C. Contrast enhancement in RII and modification of the therapeutic ratio in RIT: a theoretical evaluation of simulated extracorporeal immunoabsorption. *Antibody Immunocon Radiopharm* 1992;5:61-73.
- Oosterwijk E, Bander NH, Divgi CR, et al. Antibody localization in human renal cell carcinoma: a phase I study of monoclonal antibody G250. *J Clin Oncol* 1993;11:738-750.
- Macey DJ, Grant EJ, Bayouth JE, et al. Improved conjugate view quantitation of iodine-131 by subtraction of scatter and septal penetration events with a triple energy window method. *Med Phys* 1995;22:1637-1643.
- Berman M, Weiss MF. *SAAM manual* (DHEW Publication no. (NIH) 78-810). Washington, D.C.: U.S. Government Printing Office; 1978.
- Foster DM, Boston RC, Jacquez JA, Zech LA. *The SAAM tutorials: an introduction to using conversational SAAM, version 30*. Seattle, WA: Resource Facility for Kinetic Analysis; 1989.
- International Commission on Radiological Protection. *Report of the task group on reference man* (Publication no. 23). New York: Pergamon Press; 1975.
- Zanzonico PB, Bigler RE, Primus FJ, et al. A compartmental modeling approach to the radiation dosimetry of radiolabeled antibody. In: Schlaefke-Stelson AT, Watson EE, eds. In: *Proceedings of the Fourth International Dosimetry Symposium*. Oak Ridge, TN; 1985:421-445.
- Dewey WC. Vascular-extravascular exchange of ¹³¹I plasma proteins in the rat. *Am J Physiol* 1959;197:423-431.
- Strand SE, Zanzonico P, Johnson TK. Pharmacokinetic modeling. *Med Phys* 1993;20:497-611.
- Caron PC, Jurcic JG, Scott AM, et al. A phase I B trial of humanized monoclonal antibody M195 (anti-CD33) in myeloid leukemia: specific targeting without immunogenicity. *Blood* 1994;83:1760-1768.
- Yokota T, Milenic DE, Whitlow M, Schlom J. Rapid tumor penetration of a single-chain Fv and comparison with other immunoglobulin forms. *Cancer Res* 1992;52:3402-3408.

Erratum

There was an error in the concentration of SSKI in "Jod-Basedow Syndrome Following Oral Iodine and Radioiodinated-Antibody Administration" by El-Shirbiny et al. (*J Nucl Med* 1997;38:1816-1817). It should be 1 g/ml, not 1 mg/ml as published on page 1816, column 2, line 7 of the first full paragraph.