After intravenous or oral administration to rats and dogs, azithromycin was rapidly distributed into the tissues, where concentrations frequently exceeded those in serum by 100–fold or more within 24 h of a single dose. Rapid uptake of azithromycin by tissues from serum and slow redistribution from tissues to serum are apparently factors governing the pharmacokinetics of azithromycin in rats and dogs. Serum concentrations do not reflect the