Pharmacokinetic/pharmacodynamic analysis of adjuvant pegylated interferon α-2b in patients with resected high-risk melanoma

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ONLINE RESOURCE MATERIAL: SUPPLEMENTARY TABLE 1

Parameter	Estimate of geometric mean (N=32)	%CV
One-compartmental PK model parameters for peginterferon α-2b		
V/F (l/kg)	1.08	38%
K01 (h^{-1})	0.161	83%
K10 (h^{-1})	0.0137	35%
Imax model parameters (pooled data, n=3 to 32)		
E0	98.7%	3.8%
I_{max}	33.3%	11.5%
IC_{50} (pg*hr/mL)	80,900	28.2
R	0.986	
AIC	46.0	

PD parameters of the ANC PK/PD model		
Parameter	Estimate of geometric mean (N=31*)	%CV
K_{in} (day^{-1})	57.9	145%
K_{out} (day^{-1})	0.526	150%
IC_{50} (pg/mL)	453	84%
*One subject discontinued without sufficient PD data to model		

AIC, Akaike's information criteria; ALT, alanine aminotransferase; ANC, absolute neutrophil count; CV, coefficient of variation; E0, baseline effect; IC_{50}, plasma concentration at 50% of Imax; I_{max}, maximum drug inhibitory effect; K01, absorption rate; K10, elimination rate; K_{in}, input or production rate; K_{out}, output (loss or elimination) rate; PD, pharmacodynamic; PK, pharmacokinetic; R, accumulation factor; SC_{50}, peginterferon α-2b concentration producing 50% of S_{max}; S_{max}, maximum effect by peginterferon α-2b; V/F, apparent volume of distribution; γ, Hill coefficient.

The neutrophil data were described using the following equation:

$$dR/dt = K_{in}*[1 - (Cp/Cp + IC_{50})] - K_{out}*R$$

The ALT data were described using the following equation:

$$dR/dt = K_{in}*[1 + (S_{max}*Cp**\gamma)/(SC_{50}**\gamma + Cp**\gamma)] - K_{out}*R$$