# Abstract

Affibody® molecule $Z_{\text{HER2:2395-C}}$ has previously been shown to allow for site-specific radiolabelling. The aim of this project was to optimize a one-vial kit formulation for $^{99m}\text{Tc}$ labelling of $Z_{\text{HER2:2395-C}}$ allowing it to be introduced into hospital pharmacy. Verification that the $^{99m}\text{Tc}-Z_{\text{HER2:2395-C}}$ conjugate was stable were performed in mouse plasma. Conformation that $Z_{\text{HER2:2395-C}}$ kept its high specificity and affinity were performed on the HER2 overexpressing cell line, SKOV-3. The kit was evaluated over 28 days to show that no deterioration occurred. Results from this test showed that the labelling yield was 96.4 % ± 1.7 and the RHT content 0.35 ± 0.45. Cell studies showed that $Z_{\text{HER2:2395-C}}$ kept its high affinity and specificity.