Electronic Supplementary Material (ESI) for RSC Advances.

Supporting materials

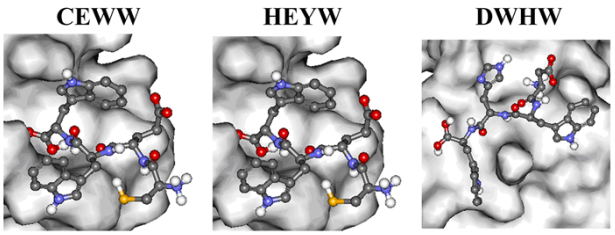

Figure 1. Interaction between the peptide ligands and the Fc region of IgG.

The results of molecular dynamics simulation were carried out by Gromacs (Fig. 1). According to the chemical structures, all three peptides contained two aromatic side chains and one acidic amino acid. The isoelectric point (pI) of CEWW, DWHW, HEYW, IgG and HSA is 3.2, 4.9, 5.1, 8 and 4.6, respectively. Obviously, the electrostatic interaction contributed to the peptide adsorption of IgG. The configuration of the peptides binding to IgG showed that all aromatic side chains were interacting with the IgG Fc region, indicating the hydrophobic interaction were also very important for ligand-IgG interaction.

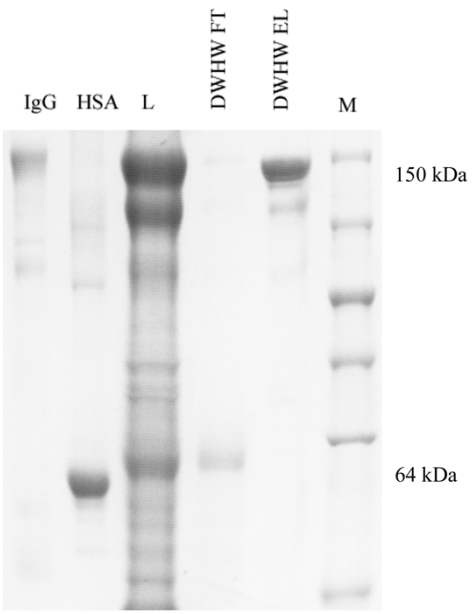

Figure 2. Non-reducing SDS-PAGE for IgG purified from CHO cell culture supernatants by DWHW resins. SDS-PAGE of IgG purified from CHO cell culture supernatants by DWHW resins by using a 15mm×5 mm column. The samples from flow-through (FT) and IgG elution (EL) peaks of IgG for each column, the fresh supernatants from CHO cell culture supernatants (Loading, L), standard IgG (IgG), human serum albumin (HSA) and molecular weight marker (M) were analyzed together.