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Understanding the impact of PEGylation on pharmacokinetic and biophysical properties of PEGylated diabody

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PEGylation has been widely used to improve pharmacokinetics of biologics. We have evaluated the effects of PEG size, shape and conjugation methods on the PEGylated diabodies. We modified diabody with PEGs of different molecular weight and shape, and applied different conjugation methods. We also measured hydrodynamic size of PEGylated diabodies with multi-angle light scattering. We found the pharmacokinetic properties of modified diabody significantly improved when Rh increased up to 6nm. In addition, PEGylation significantly reduced the non-specific binding of the diabody conjugates. Understanding the impact of PEGylation on pharmacokinetic and biophysical properties would help develop PEGylated diabody as therapeutics.

Biography

Dr. Qing Li is a scientist at Medimmune, and her research focuses on antibody discovery, tissue specific drug delivery, and ADC development. Dr. Li received her PhD in chemistry from University of Minnesota, where she developed a novel method of engineering and preparation of Chemically Self-assembled Antibody Nanorings (CSANs) that can be used for drug delivery, imaging and cell surface engineering. Dr. Li completed post-doctoral training in Dr. Brent Iverson and Dr. George Georgiou's lab at the University of Texas, Austin, where she co-developed a yeast-surface-display based high-throughput screening method of protease evolution for altered specificity and activity.

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