Aggregation and Gelation of Globular Food Proteins.

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I will review the results obtained in our group in recent years on the aggregation and gelation of whey proteins, casein micelles and soy proteins. Heat induced gelation of whey and soy proteins has been studied for decades and will be briefly resumed. Heat-induced gelation of casein micelles has been reported only relatively recently. I will show that addition of whey or soy proteins has a profound effect on gelation of the micelles. It is possible to form stable suspensions whey protein aggregates by heating at lower concentrations. An alternative method to induce gelation is to reduce the electrostatic repulsion between the globular protein aggregates by reducing the pH or by adding salt. The effects of adding $CaCl_2$, or reducing the pH will be discussed as well as gelation of mixtures of casein micelles and whey protein aggregates.