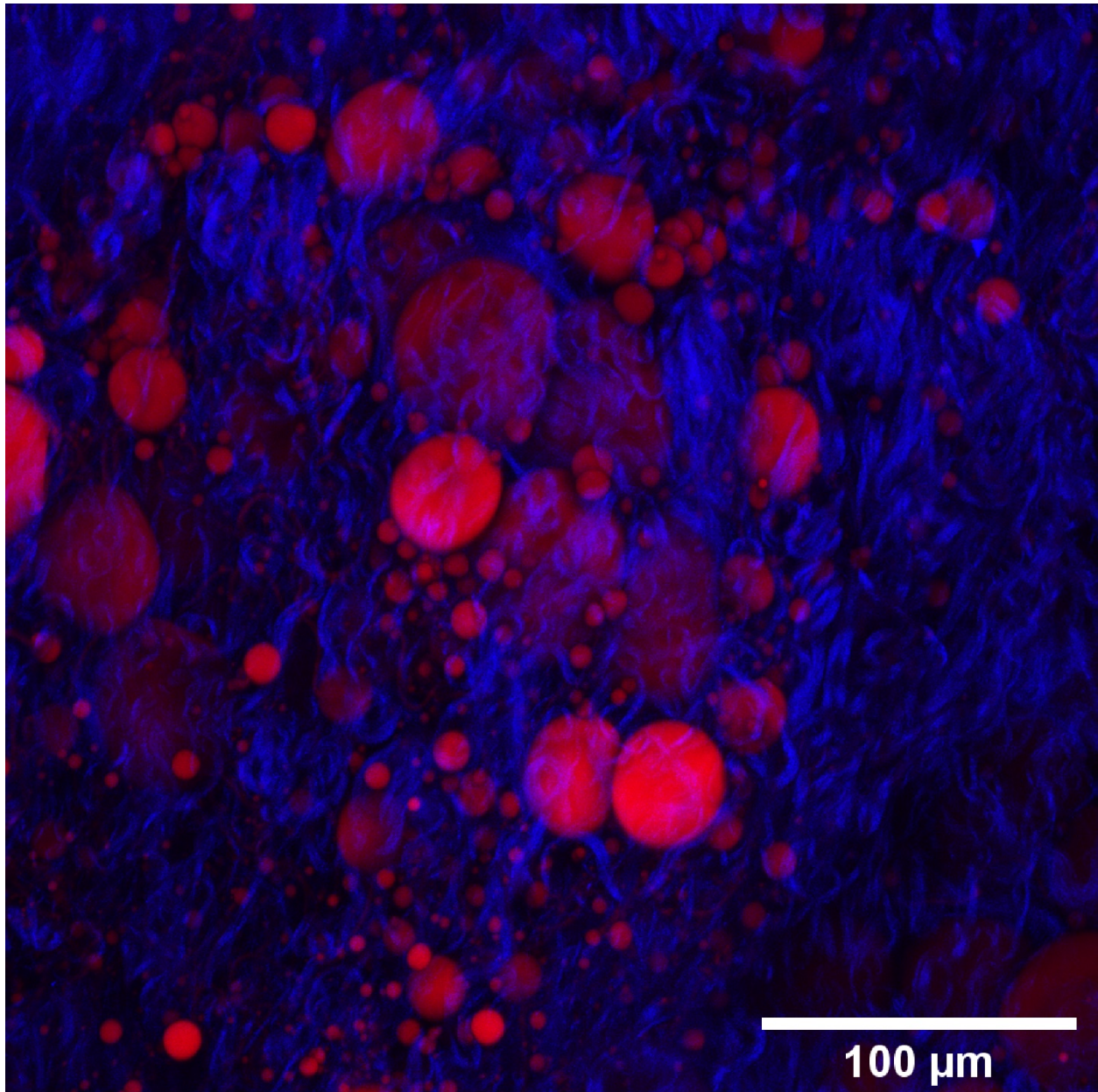


Detecting Fibrosis in Adipose Tissue



The degree of fibrosis in adipose tissue can be detected using multiphoton and second harmonic generation (SHG) microscopy. Obesity can lead to adipose tissue fibrosis through prolonged inflammation that causes stiffening of the tissue. This has been heavily linked to increased metabolic dysfunction and decreased ability to lose fat mass. Human abdominal adipose tissue was stained with lipophilic stain, causing adipocytes (fat cells) to fluoresce red. Using SHG, collagen fibers naturally fluoresce blue. By evaluating adipocyte size, distribution, and collagen concentration, this imaging technique is used to detect fibrosis and improve treatment of metabolic diseases.