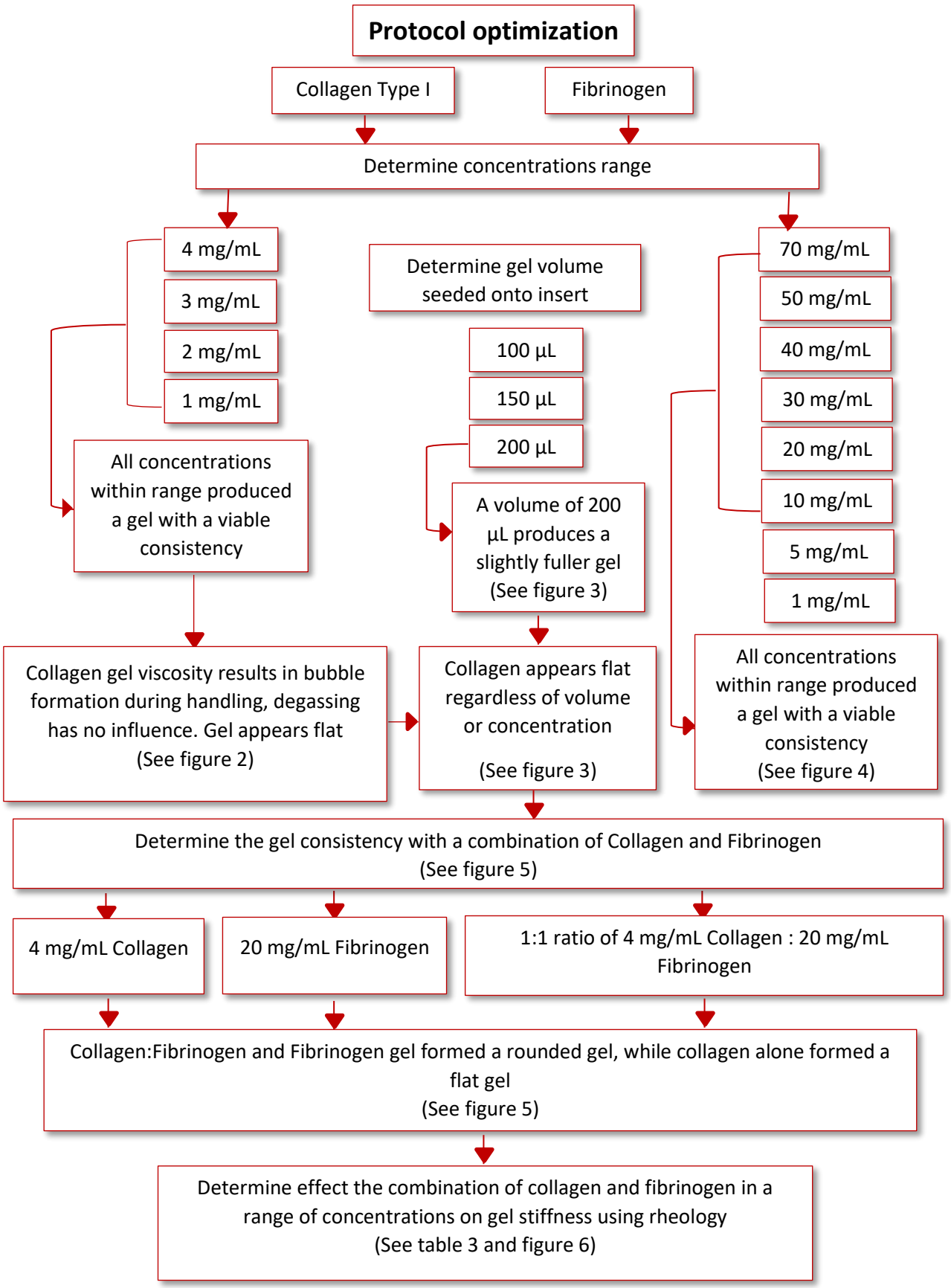
Protocol optimization
Collagen Type I
Fibrinogen
Determine concentrations range
4 mg/mL
3 mg/mL
2 mg/mL
1 mg/mL
All concentrations within range produced a gel with a viable consistency
Collagen gel viscosity results in bubble formation during handling, degassing has no influence. Gel appears flat (See figure 2)
Determine gel volume seeded onto insert
100 µL
150 µL
200 µL
A volume of 200 µL produces a slightly fuller gel (See figure 3)
Collagen appears flat regardless of volume or concentration (See figure 3)
70 mg/mL
50 mg/mL
40 mg/mL
30 mg/mL
20 mg/mL
10 mg/mL
5 mg/mL
1 mg/mL
All concentrations within range produced a gel with a viable consistency (See figure 4)
Determine the gel consistency with a combination of Collagen and Fibrinogen (See figure 5)
4 mg/mL Collagen
20 mg/mL Fibrinogen
1:1 ratio of 4 mg/mL Collagen : 20 mg/mL Fibrinogen
Collagen:Fibrinogen and Fibrinogen gel formed a rounded gel, while collagen alone formed a flat gel (See figure 5)
Determine effect the combination of collagen and fibrinogen in a range of concentrations on gel stiffness using rheology (See table 3 and figure 6)