

**PhotoCol-IRG, Methacrylated Collagen Hydrogel Kit Photocrosslinked type I collagen hydrogel (CC320 Kit Component 1)**

Art. ID SAF-CC320-1

Unit EA

**Description**

3D cell culture, including bioprinting, allows for the creation of more physiological cell models by allowing cells to simultaneously interact with integrins on all cell surfaces, resulting in the activation of specific signaling pathways not activated in traditional 2D cell culture methods. Hydrogels are water swollen polymers that allow for the culture of cells in 3-dimensions and can have profound effects on cellular development, differentiation, migration, and function. New areas of tissue engineering such as 3D bioprinting, have utilized UV photocrosslinked methacrylated hydrogel biomaterials (PEGMA, GelMA, HAMA and ColMA etc.) to encapsulate cells to make printable bioinks. The PhotoCol-IRG, Methacrylated Collagen Hydrogel Kit (CC320: CC320-1, CC320-2) is based upon purified type I bovine collagen methacrylate (ColMA), which when photocrosslinked provides a native-like 3D environment for cells. In addition to type I bovine collagen methacrylate, the kit includes the photoinitiator Irgacure 2959 and other reagents for users to easily fine tune their photocrosslinking experiments (i.e. altering hydrogel stiffness or gelling speeds). The methacrylated Type I collagen is produced from telo-peptide intact bovine collagen that has been modified by reacting with the protein's free amines, primarily the  $\epsilon$ -amines groups of the lysine residues as well as the alpha-amines groups on the N-termini. >20% of the total lysine residues of the collagen molecule have been methacrylated. The collagen is extracted from bovine hide and contains a high monomer content that was isolated from a closed herd and purified using controlled manufacturing processes. PhotoCol is a registered trademark of Advanced BioMatrix, Inc.