

Since current mesoporous bioactive glass materials have different forms, such as particles, fibers, spheres, scaffolds, and composites with highly ordered mesoporous channel structures, the preparation processes are significantly varied (Yan et al., 2004; Hong et al., 2010; Wu et al., 2010, 2012; Thakur et al., 2017) (see Fig. 10.8). In general, different kinds of mesoporous BGs require a precursor to act as a cast to form a mesoporous structure, and followed by other preparation techniques, different forms of mesoporous bioactive glass can be obtained (Wu and Chang, 2012).

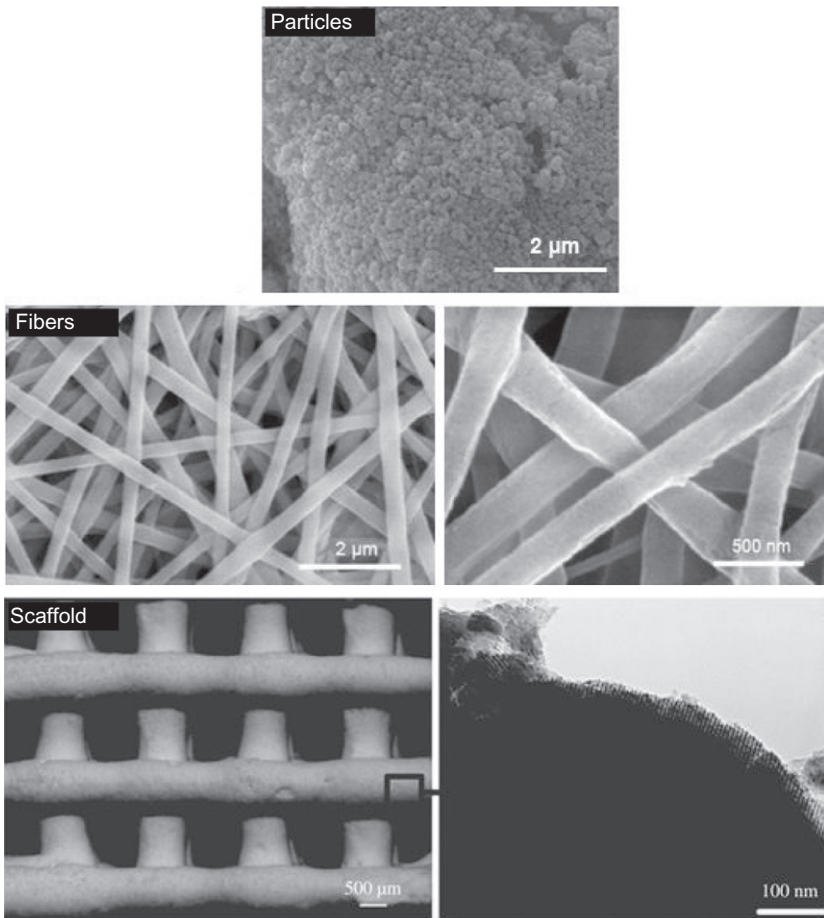


FIG. 10.8 Mesoporous bioactive glass particles, fibers, and scaffold. (From Wu, C., Chang, J., 2012. Mesoporous bioactive glasses: structure characteristics, drug/growth factor delivery and bone regeneration application. *Interface Focus* 2 292–306; Chen, S.J., Jian, Z.Y., Huang, L.S., Xu, W., Liu, S.H., Song, D.J., Wan, Z.M., Vaughn, A., Zhan, R.S., Zhang, C.Y., Wu, S., Hu, M.H., Li, J.S., 2015. Mesoporous bioactive glass surface modified poly(lactic-co-glycolic acid) electrospun fibrous scaffold for bone regeneration. *Int. J. Nanomedicine* 10 (1) 3815–3827.)