**Supplementary Material:**

**Hybrid Silica-Coated PLGA Nanoparticles for Enhanced Enzyme-Based Therapeutics**

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This section contains two supporting tables. **Supporting Table 1** highlights active enzymes that are used to treat a variety of diseases. **Supporting Table 2** lists commercial drug formulations that utilize PLGA particles as delivery vehicles.

|  |  |  |  |
| --- | --- | --- | --- |
| **Active enzyme** | **Enzyme formulation(s)** | **FDA Status** | **Disease(s)** |
| asparaginase | colaspase; crisantaspase; pegaspargase; calaspargase pegol-mknl | approved | acute lymphoblastic leukemia; lymphoblastic lymphoma |
| phenylalanine ammonia lyase | pegvaliase | approved | phenylketonuria |
| arginine deiminase | pegargiminase; ADI-PEG 20 | phase 2 | metastatic melanoma; hepatocellular carcinoma; mesothelioma |
| arginase | pegzilarginase | phase 3; phase 1 | Arginase 1 deficiency; melanoma, leukemia, lymphoma |
| methioninase |  | phase 1 | lung carcinoma, breast cancer, renal cancer, lymphoma |
| kynureninase | PEG-KYNase | preclinical research | melanoma, breast carcinoma, colon carcinoma |
| cysteinase |  | preclinical research | prostate cancer, breast cancer |

**Supporting Table 1: Active enzymes used to treat diseases**

**Supporting Table 2: Commercial formulations using PLGA particles for drug delivery**

|  |  |  |
| --- | --- | --- |
| **Commercial name(s)** | **Active ingredient** | **Disease(s)** |
| Decapeptyl®; Decapeptyl™ SR | triptorelin | prostate cancer, endometriosis |
| Bydureon®; Bydureon Bcise®  | exenatide | type 2 diabetes |
| Sandostatin LAR®; Sandostatin LAR® Depot | octreotide | acromegaly |
| Suprecur® MP | buserelin | prostate cancer, endometriosis |
| Somatuline® LA | lanreotide | acromegaly |
| Trelstar™ Depot | triptorelin | prostate cancer |
| Lupron Depot® | leuprolide | prostate cancer |
| Nutropin Depot® | somatropin | pediatric growth hormone deficiency  |