In particle therapy, it is important to monitor the Bragg-peak position. We are developing the system to monitor the Bragg-peak position which can measure pair production events occurred in the detector by gamma rays from irradiation points. The momentum direction of the gamma ray can be determined by measuring passing points and energy of e_+ and e_- generated by pair production. This system has 5 parts. The first is the conversion part. This part consists of several layers. Each layer is composed of a La-GPS ($(Gd_{0.75}La_{0.24}Ce_{0.01})_2Si_2O_7$) scintillator plate and wavelength-shifting fibre (WLSF) sheets. The scintillator plate is sandwiched between sheets, where the directions of the sheets are in orthogonally x and y directions. In this part, gamma rays are converted to e_+ e_- pairs and the position where the conversion occured is determined. The second is the tracking part. This part consists of 2 layers of scintillating fibre tracker. Each layer has 6 scintillating fibre sheets for x, x', u, u', v, and v'. The third is the energy measurement part. It measures the energy of e_+ and e_- by scintillator array and Silicon Photomultipliers. The fourth is the veto counter for bremsstrahlung gamma rays from e_+ and e_-. The fifth is the beam monitor. It was confirmed by GEANT4 Monte Carlo Simulation Code that the gamma rays of 10 MeV or more, where the pair production event dominates, are generated intensively from the Bragg-peak position. By experiment, the number of photoelectrons of La-GPS with a WLSF (B-3(300)MJ, Kuraray) sheet and scintillating fibre (SCSF-78, Kuraray) when charged particle passed was measured as 9.7 and 7.6 respectively. Position resolution of a WLSF sheet and a scintillating fibre sheet are being measured. In addition, we are simulating angular resolution of this system.