Fractional Brownian motion (fBm) is a centered self-similar Gaussian process with stationary increments, which depends on a parameter $H \in (0,1)$ called the Hurst index. Time-fractional order Fokker-Planck-Kolmogorov type equations driven by a time-changed fractional Brownian motion was given by Hahn, Kobayashi and Umarov. In modeling, the use of time-changed processes in often requires the knowledge of their second order properties such as covariance function. This paper provides the explicit expression for the covariance function for time-changed fractional Brownian motion and some examples are discussed, as well. (Received September 21, 2015)