Glypicans (GPCs) are a family of glycosylphosphatidylinositol (GPI)-anchored heparan sulphate proteoglycans (HSPGs) that may play a role in the control of cell division and growth regulation. In mammals, there are six GPCs (GPC1 to GPC6), all of which have a similar core-protein size of approx. 60 kDa and the clustering of glycosaminoglycan attachment site near the C-terminus. They are tethered to the cell surface by GPI linkages, which can be cleaved by endogenous phospholipases, thus releasing the protein. Glypican 3 (GPC3) is highly expressed in many tissues during development and plays an important role in the regulation of embryonic growth (PMID: 22467855). Loss-of-function mutations of GPC3 result in the Simpson-Golabi-Behmel overgrowth syndrome (SGBS), and Gpc-3 null mice display developmental overgrowth (PMID: 8589713; 18477453). In hepatocellular carcinoma (HCC), the overexpression of GPC3 has been demonstrated to be a reliable diagnostic indicator (PMID: 19212669; 22706665).
Selected Validation Data