Alpha-7 integrin is a protein that in humans is encoded by the ITGA7 gene.

Alpha-7 integrin is critical for modulating cell-matrix interactions. Alpha-7 integrin is highly expressed in cardiac muscle, skeletal muscle and smooth muscle cells, and localizes to Z-disc and costamere structures. Mutations in ITGA7 have been associated with congenital myopathies and noncompaction cardiomyopathy, and altered expression levels of alpha-7 integrin have been identified in various forms of muscular dystrophy.

Haas et al. identified integrin α7 (ITGA7) as a major laminin receptor in GSCs and in primary high-grade glioma specimens. Analyses of mRNA profiles in comprehensive datasets revealed that high ITGA7 expression negatively correlated with survival of patients with both low- and high-grade glioma. In vitro and in vivo analyses showed that ITGA7 plays a key functional role in growth and invasiveness of GSCs. We also found that targeting of ITGA7 by RNAi or blocking mAbs impaired laminin-induced signaling, and it led to a significant delay in tumor engraftment plus a strong reduction in tumor size and invasion. Data, therefore, highlight ITGA7 as a glioblastoma biomarker and candidate therapeutic target [1)]

1)
Haas TL, Sciuto MR, Brunetto L, Valvo C, Signore M, Fiori ME, di Martino S, Giannetti S, Morgante L, Boe A, Patrizii M, Warnken U, Schnölzer M, Ciolfi A, Di Stefano C, Biffoni M, Ricci-Vitiani L, Pallini R, De Maria R. Integrin α7 Is a Functional Marker and Potential Therapeutic Target in Glioblastoma. Cell Stem Cell. 2017 Jul 6;21(1):35-50.e9. doi: 10.1016/j.stem.2017.04.009. Epub 2017 Jun 9. PubMed PMID: 28602620.