Thirty-five paraffin-embedded medulloblastomas (19 from children and 16 from adults; 24 classic medulloblastomas, 10 desmoplastic medulloblastomas, 1 tumor with neuronal differentiation) were examined for reactions with antibodies against glial fibrillary acidic protein (GFAP), cytokeratins KL1 and MNF116, desmin, and vimentin. Only the tumor from the youngest patient, a 152-day-old boy, showed a positive immunoreaction for cytokeratins. Because of this age-related expression of cytokeratins in medulloblastomas primarily in very young children, cytokeratin positivity was interpreted as a sign of tumor immaturity. Five medulloblastomas showed scattered GFAP-positive reactive astrocytes and/or other positive, probably neoplastic, cells. Only two tumors showed GFAP immunoreactivity in unequivocally neoplastic cells. Of six tumors that reacted with vimentin, three showed strong reactivity throughout, one being the tumor from the 152-day-old boy. The remaining three demonstrated nests of vimentin-positive cells with weak or intense somatic immunoreactivity for vimentin. None of the 35 cases showed positivity for desmin; indicating that mesenchymal differentiation is restricted to the rare so-called medulomyoblastomas.