

L1CAM expression (immunohistochemistry)^{1,2} (Non-core)

Reason/Evidentiary Support

Strong and diffuse cytoplasmic L1CAM (L1 Cell Adhesion Molecule) immunostaining of tumour cells is a sensitive surrogate marker for *RELA* fusion–positive ependymomas (see ***RELA* fusion**); these tumours are the majority of paediatric ependymomas in the supratentorial compartment, generally present in children, and carry a *C11orf95-RELA* fusion. However, L1CAM immunopositivity is not a specific marker as it can also be expressed by other types of tumours. Nonetheless, L1CAM immunohistochemistry is recommended for indicating that a supratentorial ependymoma likely belongs to the *RELA* fusion–positive category when *RELA* fusion testing is not possible or yields equivocal results.

References

- 1 Parker M, Mohankumar KM, Punchihewa C, Weinlich R, Dalton JD, Li Y, Lee R, Tatevossian RG, Phoenix TN, Thiruvengatam R, White E, Tang B, Orisme W, Gupta K, Rusch M, Chen X, Li Y, Nagahawhatte P, Hedlund E, Finkelstein D, Wu G, Shurtleff S, Easton J, Boggs K, Yergeau D, Vadodaria B, Mulder HL, Becksfort J, Gupta P, Huether R, Ma J, Song G, Gajjar A, Merchant T, Boop F, Smith AA, Ding L, Lu C, Ochoa K, Zhao D, Fulton RS, Fulton LL, Mardis ER, Wilson RK, Downing JR, Green DR, Zhang J, Ellison DW and Gilbertson RJ (2014). C11orf95-RELA fusions drive oncogenic NF-kappaB signalling in ependymoma. *Nature* 506(7489):451-455.
- 2 Figarella-Branger D, Lechapt-Zalcman E, Tabouret E, Junger S, de Paula AM, Bouvier C, Colin C, Jouvett A, Forest F, Andreiulo F, Quintin-Roue I, Machet MC, Heitzmann A, Milin S, Sevestre H, Godfraind C, Labrousse F, Metellus P, Scavarda D and Pietsch T (2016). Supratentorial clear cell ependymomas with branching capillaries demonstrate characteristic clinicopathological features and pathological activation of nuclear factor-kappaB signaling. *Neuro Oncol* 18(7):919-927.