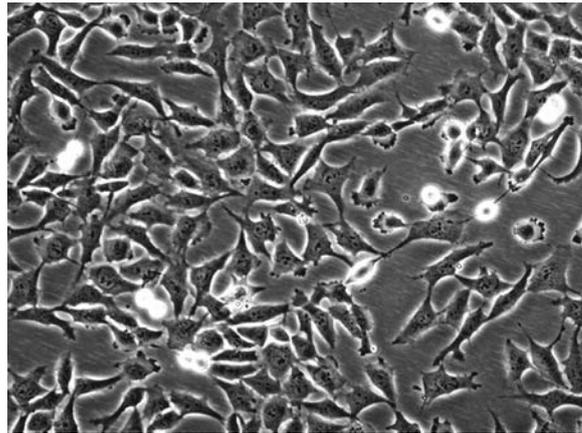


## Cell line profile

1321N1 (ECACC catalogue no. [86030402](#))

### Cell line history

1321N1 cells were derived from a sub clone of the cell line 1181N1, which in turn was derived from U-118MG a line isolated from a human malignant glioma. The STR profile of 1321N1 is similar to that of U-118MG, a glioblastoma.



### Key characteristics

The cell line expresses surface receptors for regulation of cell migration. Studies of regulators of growth and migration show that mutation of the enzymes that modify these regulators, are linked to changes in the cell invasion and metastasis. They are also associated with various pathological syndromes e.g. Lowe syndrome.

### Applications

This line in conjunction with other glioma derived lines has been used in studies into neurological disease including the effects of neurotropic factors, transmembrane transport, drug delivery and degenerative diseases e.g. Alzheimer's. Glial cells are now known to interact with neurons and are involved in their repair and the recycling of neurotransmitters. Cells communicate by releasing the messenger molecule IP3, a phospholipid, which produces a calcium 'wave', which in turn triggers the release of ATP, acting as a signal messenger between cells. 1321N1 cells have been shown to express both the M3 and M5 receptors for muscarine, which form G-protein receptor complexes, known to be involved in disorders in smooth muscle and the CNS.

### Culture tips

The cells are relatively straightforward to culture, producing a typical neuronal morphology in culture i.e. interlinking bipolar cells as the cell density increases. They grow in DMEM + 10%FBS and a normally seeded at a starting density of approx.  $2 \times 10^4$  cells/cm<sup>2</sup>. Cells should be sub cultured when they reach a maximum of 90% confluence.

## Key references

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Paul C. Guest, Keiko Iwata, Takahiro A. Kato, Johann Steiner. MK-801 treatment affects glycolysis in oligodendrocytes more than in astrocytes and neuronal cells: insights for schizophrenia. Cell. Neurosci., 12 May 2015.

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Related cell lines	ECACC catalogue number
MOG-G-CCM	<a href="#">86022702</a>
MOG-G-UVW	<a href="#">86022703</a>
U-373 MG (Uppsala)	<a href="#">08061901</a>
U-87MG	<a href="#">89081402</a>

## Growth profile

