



Miltenyi Biotec

MACS[®] Neural Tissue Dissociation Kits —

gentle and efficient dissociation of neural tissues

MACS® Neural Tissue Dissociation Kit

Gentle and efficient dissociation

The Neural Tissue Dissociation Kits, which can be used in combination with the gentleMACS™ Dissociator, have been developed for the gentle and efficient generation of single-cell suspensions from neural tissues: In less than one hour, the gentle two-step enzymatic dissociation procedure efficiently yields high numbers of viable cells. Neural tissue from embryonic, postnatal, and adult tissue sections or whole-brain preparations can be processed. The dissociation kit comes in two formats, one papain-based Neural Tissue Dissociation Kit (P) and the other trypsin-based Neural Tissue Dissociation Kit (T). The cells are then ready for downstream applications.

	Antigen compatibility		
	Antigen	Species	Cell type
Neural Tissue Dissociation Kit (P)	Prominin-1	Mouse	Neural stem and progenitor cells
	A2B5	Human, mouse, rat	Glial-restricted precursors
	O4 ¹	Human, mouse, rat	Immature oligodendrocytes, type-2 astrocytes
	CD11b	Human, mouse	Microglia
	CD81 ¹	Mouse, rat	Microglia, macrophages, endothelial cells, glia
	CD31 ¹	Mouse	Endothelial cells
Neural Tissue Dissociation Kit (T)	Prominin-1 ²	Mouse	Neural stem and progenitor cells
	PSA-NCAM	Human, mouse, rat	Neuronal-restricted precursors, oligodendrocyte progenitors
	CD24	Mouse	Neuronal precursors, ependymal cells
	A2B5 ²	Human, mouse, rat	Glial-restricted precursors
	CD11b	Human, mouse	Microglia
	CD271 (LNGFR)	Human	Schwann cells, motor neurons
	CD105	Mouse	Endothelial cells
	Ter-119	Mouse	Erythrocytes

1 Slight epitope sensitivity with the use of the papain-based kit; therefore, a further dilution of the enzyme mix is recommended.

2 Slight epitope sensitivity with use of the trypsin-based kit; therefore, use of the papain-based kit recommended.

Epitope sensitivities have been tested for antibodies available from Miltenyi Biotec.

Single-cell suspensions within an hour

- Two-step enzymatic dissociation procedure
- Available in papain or trypsin format



Place brain on petri dish and cut into small pieces. Collect pieces in 1 mL of HBSS and centrifuge at 300 × g, 4 °C, 2 min.



Add 1950 µL of pre-warmed Enzyme mix 1 (Solutions 1 and 2). Incubate 15 min at 37 °C.

15 minutes



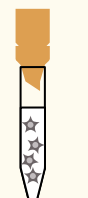
Add 30 µL Enzyme mix 2 (Solutions 3 and 4) to tissue and mix. Do **not** vortex.



Dissociate mechanically: Pipette 10 × slowly up and down with a wide-tipped glass pipette. Incubate 10 min at 37 °C.

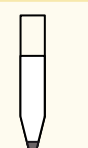
10 minutes

Repeat trituration with two narrow-tipped glass pipettes until no tissue pieces remain.



Apply to 30 µm cell strainer and then wash twice with 10 mL of HBSS, centrifuge at 300 × g, 4 °C, 10 min after each wash step.

20 minutes



(Optional) Myelin removal: Resuspend in 10 mL of cold sucrose solution; centrifuge at 850 × g, 4 °C, 10 min; wash with 10 mL HBSS. Process cells immediately, e.g. MACS® Cell Separation.

10 minutes

Products	Order no.
Neural Tissue Dissociation Kit (P)	130-092-628
Neural Tissue Dissociation Kit (T)	130-093-231



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