

# **OLIMPIADI ITALIANE DELLE NEUROSCIENZE 2019**

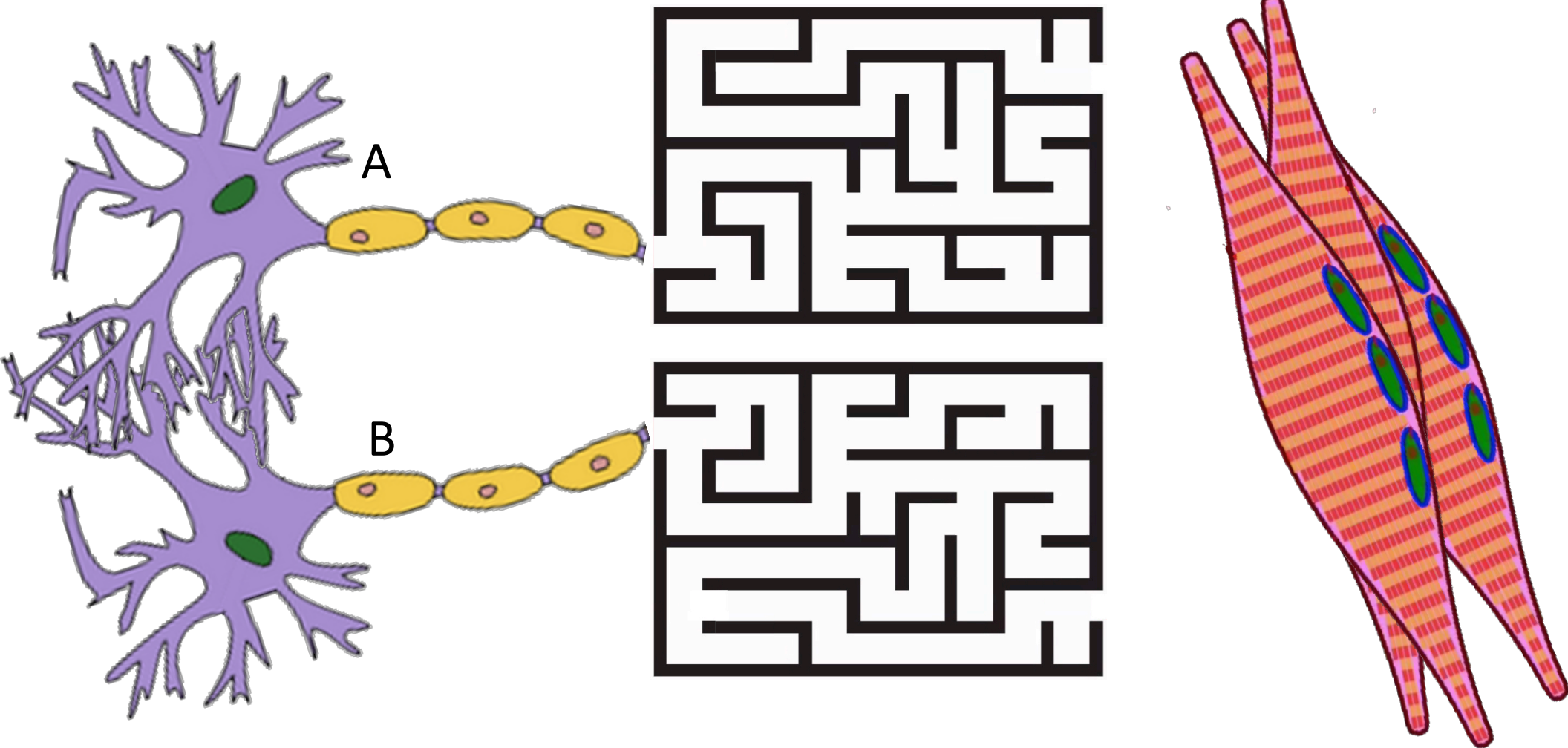
## **III PROVA GARE REGIONALI**



### **GIOCHI DI MEMORIA E ATTENZIONE**

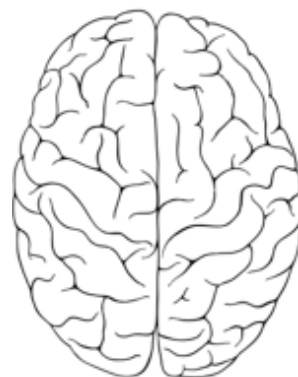
## **GIOCHI**



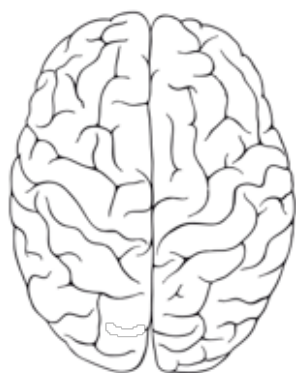


Dopo essere stato sezionato, quale dei due neuroni formerà prima una unità motoria?

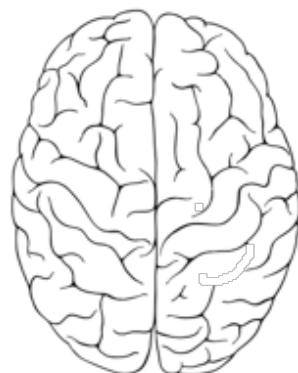
GIOCO



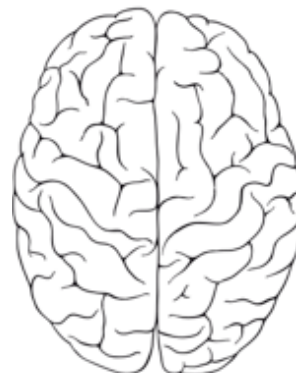
A



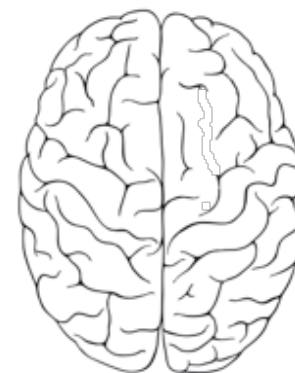
B



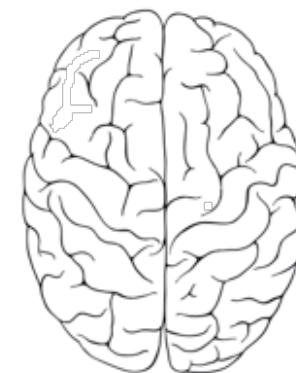
C



D



E



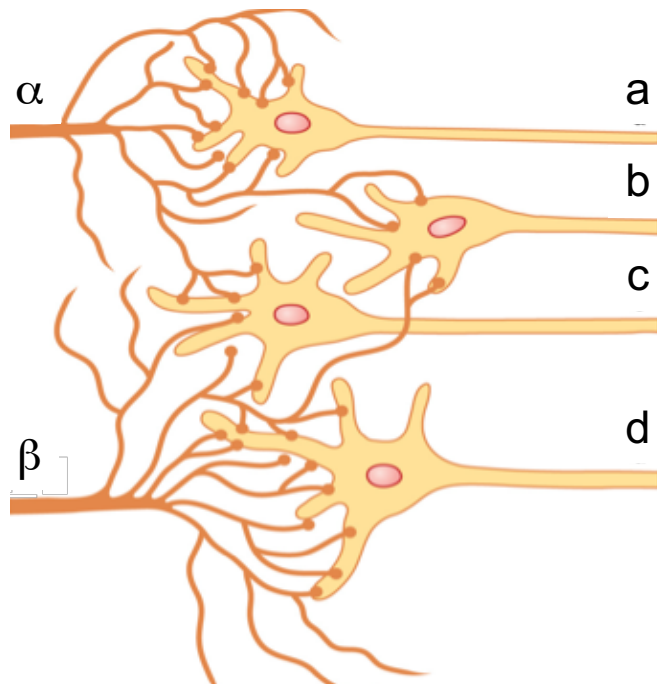
Quale dei cervelli in basso è identico a quello in alto?

I potenziali d'azione delle fibre afferenti  $\alpha$  e  $\beta$  producono potenziali post-sinaptici eccitatori tutti della stessa ampiezza e durata.

Per generare un proprio potenziale d'azione, i neuroni a, b, c e d hanno bisogno dell'attivazione contemporanea di 5 sinapsi.

Nella tabella, scrivere quanti potenziali d'azione verranno generati nei neuroni efferenti (le 4 colonne di destra) in risposta ai potenziali d'azione attribuiti alle fibre afferenti (le 2 colonne di sinistra).

Alcuni valori sono già riportati.

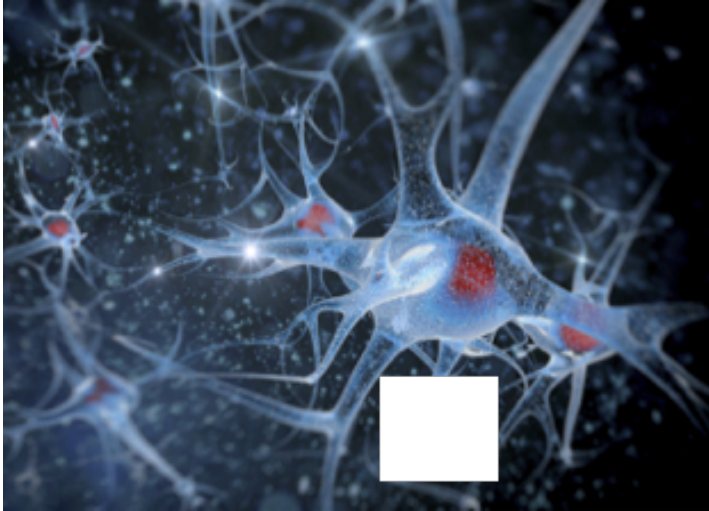


fibre afferenti		neuroni efferenti			
$\alpha$	$\beta$	a	b	c	d
1	0	2	—	—	—
4	0	—	—	—	—
1	1	—	—	—	2
1	4	—	—	—	—

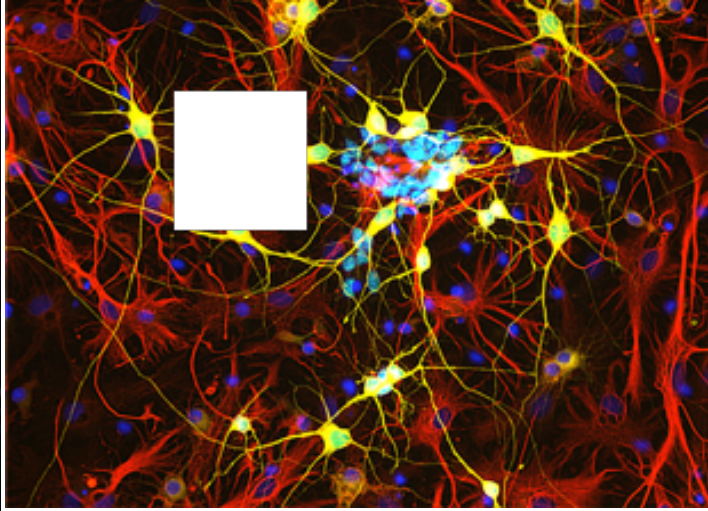
Unendo lettere vicine, trovare il nome di una regione del cervello

<b>C</b>	<b>E</b>	<b>R</b>	<b>V</b>	<b>A</b>	<b>T</b>
<b>A</b>	<b>N</b>	<b>V</b>	<b>E</b>	<b>M</b>	<b>A</b>
<b>L</b>	<b>O</b>	<b>E</b>	<b>N</b>	<b>I</b>	<b>L</b>
<b>P</b>	<b>A</b>	<b>L</b>	<b>L</b>	<b>E</b>	<b>T</b>
<b>I</b>	<b>S</b>	<b>T</b>	<b>I</b>	<b>M</b>	<b>T</b>
<b>R</b>	<b>A</b>	<b>M</b>	<b>I</b>	<b>D</b>	<b>O</b>

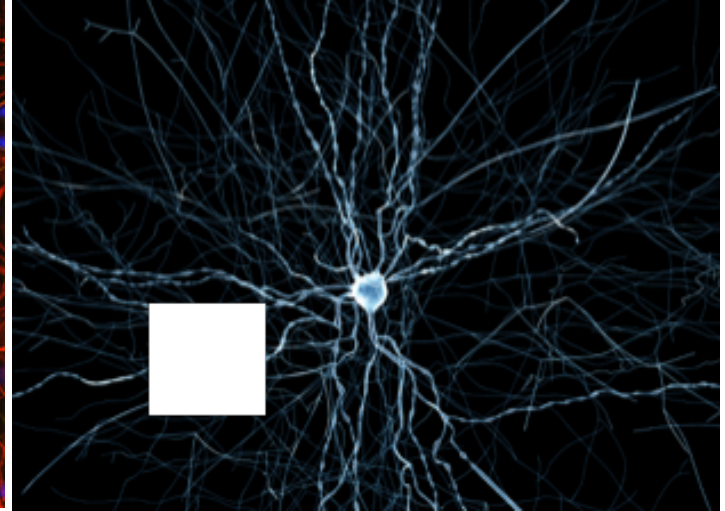
1



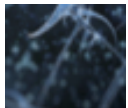
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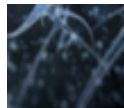
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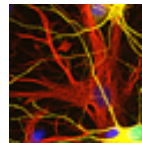
A



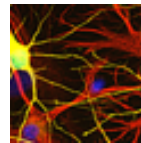
B



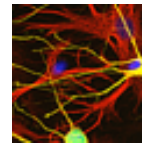
C



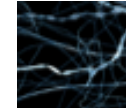
A



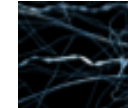
B



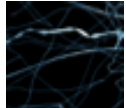
C



A



B



C

Per ognuno dei tre riquadri grandi, indicare il tassello mancante