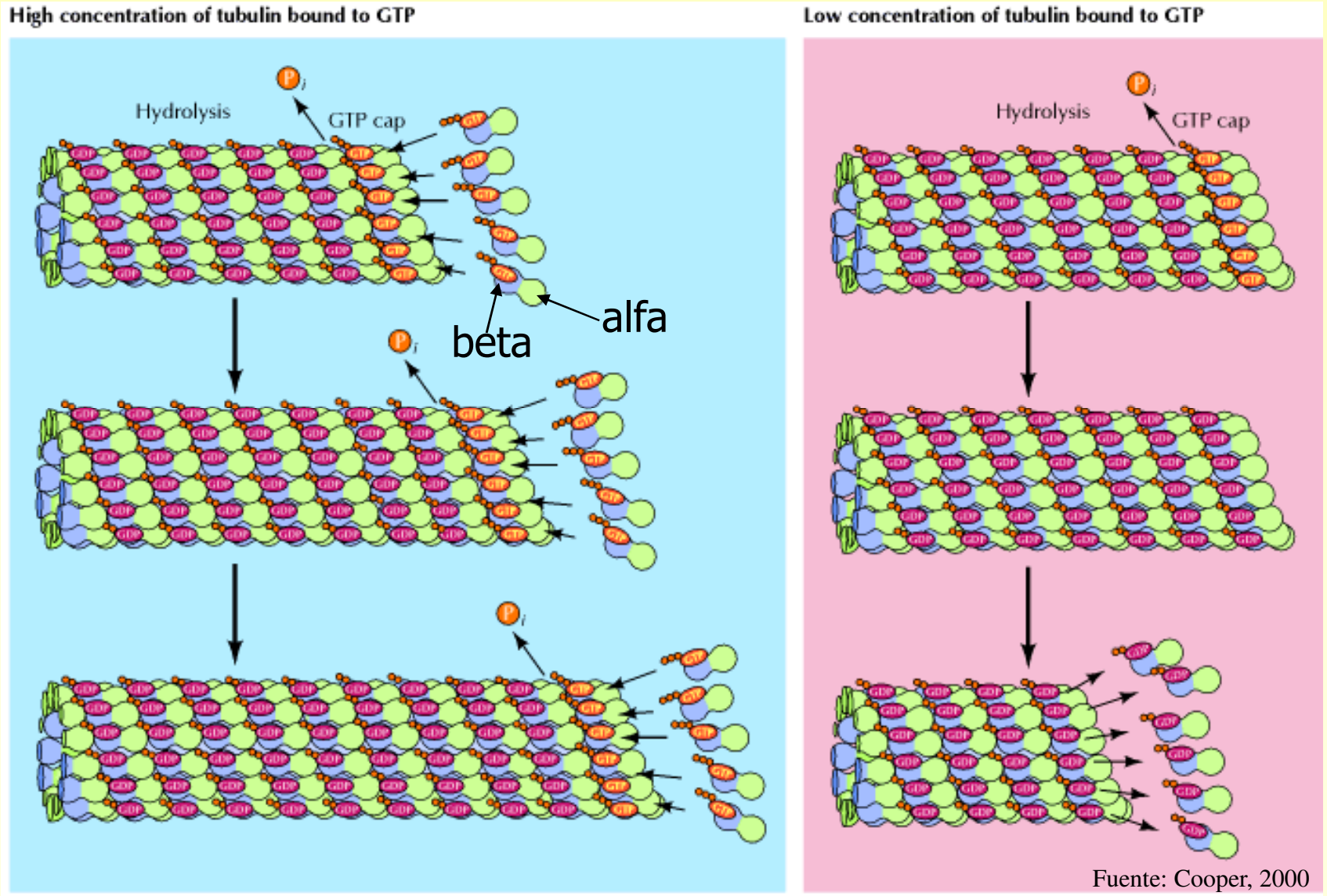
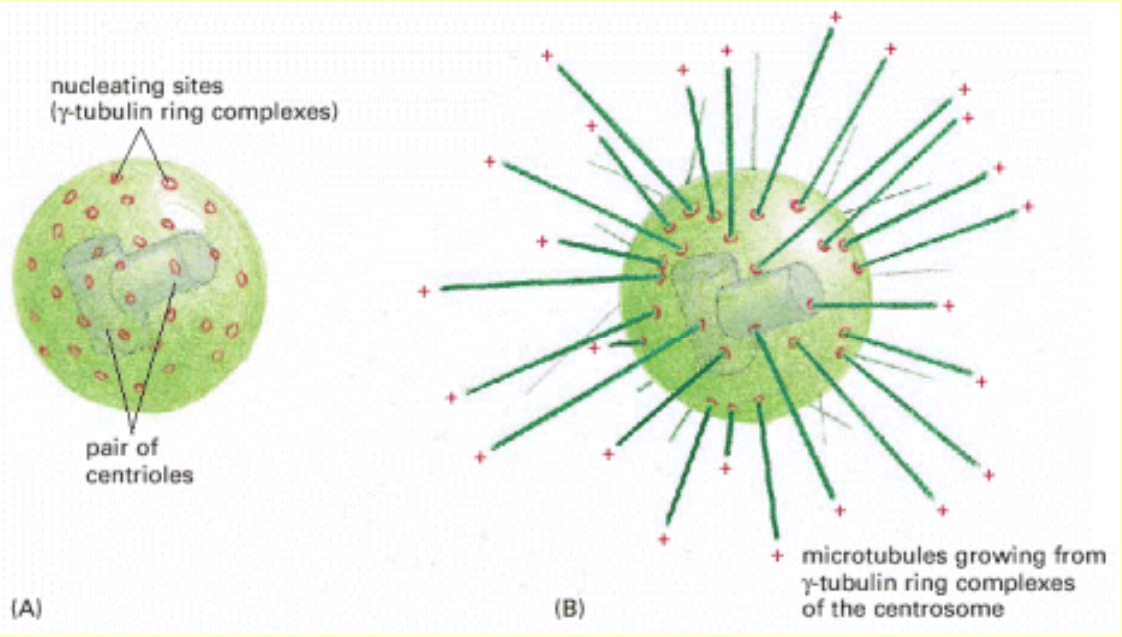
ESTRUCTURA, ENSAMBLAJE E INESTABILIDAD DINÁMICA DE LOS MICROTÚBULOS

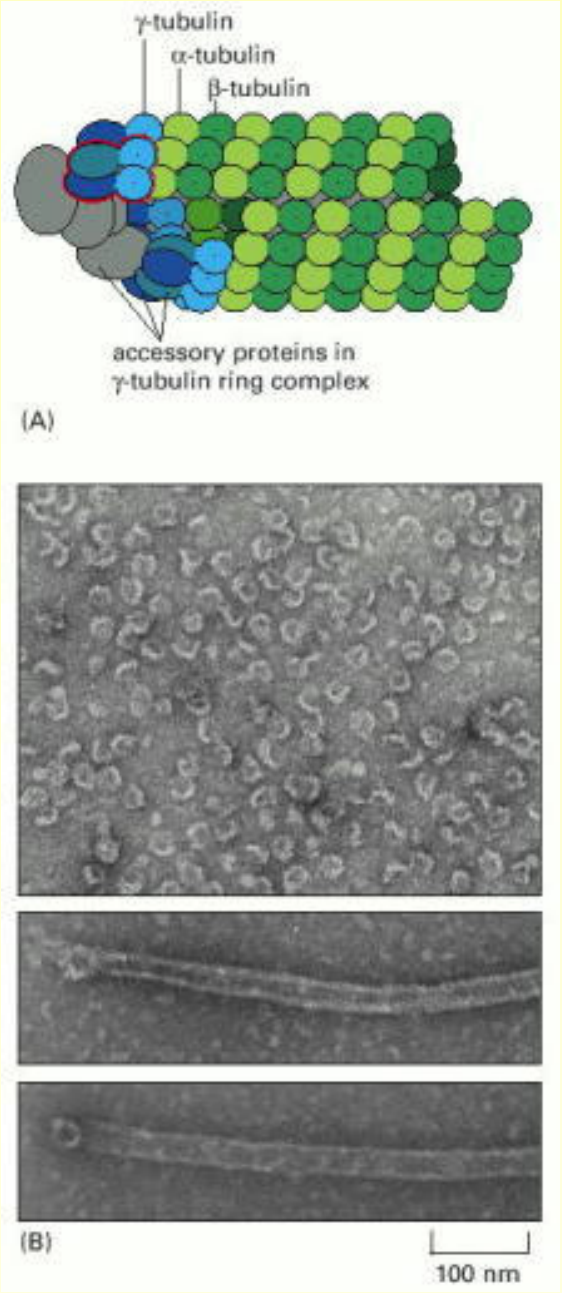


Fuente: Cooper, 2000

CENTRO ORGANIZADOR DE MICROTÚBULOS: EL CENTROSOMA Y LA TUBULINA GAMMA



The centrosome. (A) The centrosome is the major MTOC of animal cells. Located in the cytoplasm next to the nucleus, it consists of an amorphous matrix of protein containing the γ-tubulin ring complexes that nucleate microtubule growth. This matrix is organized by a pair of centrioles, as described in the text. (B) A centrosome with attached microtubules. The minus end of each microtubule is embedded in the centrosome, having grown from a γ-tubulin ring complex, whereas the plus end of each microtubule is free in the cytoplasm
Fuente: Alberts et al., 2002



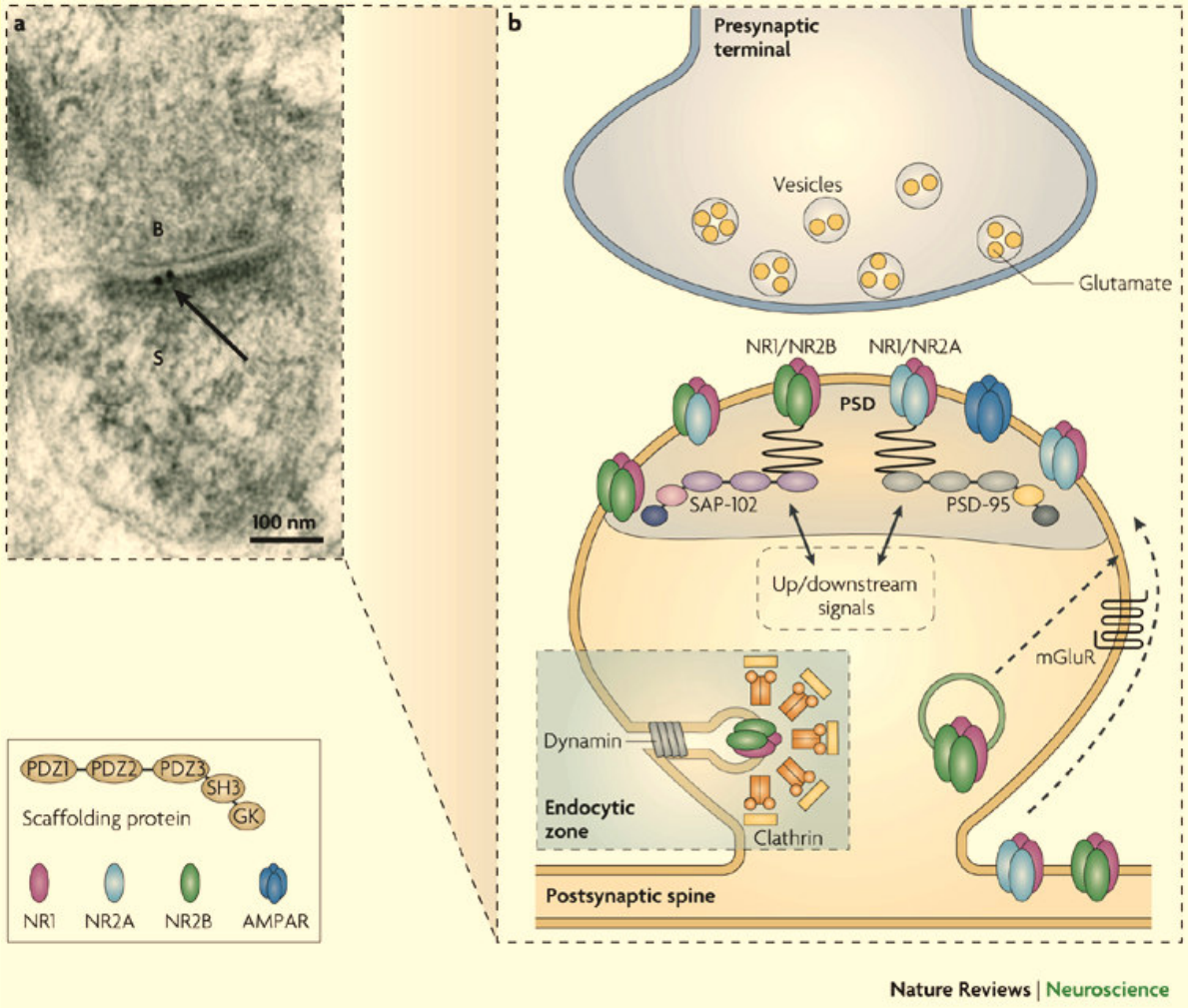
Fuente: Alberts et al., 2002

ESPECIFICIDAD DE LAS PROTEÍNAS MOTORAS: EL CASO DE LA SUBUNIDAD 2B DEL RECEPTOR DE GLUTAMATO DE TIPO NMDA

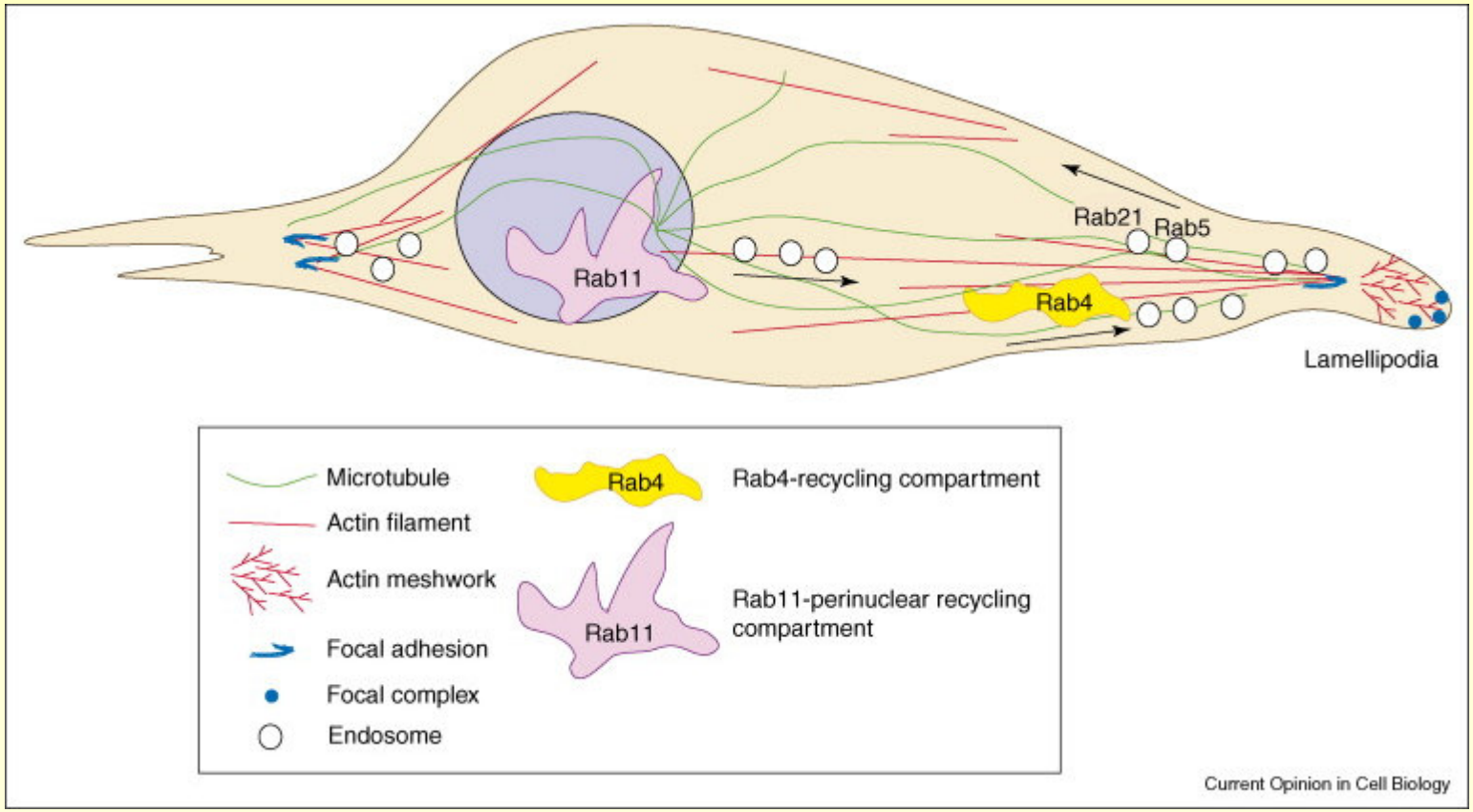
a | Electron micrograph showing the localization of NR2A subunits in the postsynaptic density (PSD) on dendritic spines (S) in the rat brain

b | Synaptic NMDARs (N-methyl-D-aspartate receptors) and AMPARs (-amino-3-hydroxy-5-methyl-4-isoxazole propionic acid receptors) are localized to the PSD (grey area), where they are structurally organized and spatially restricted in a large macromolecular signalling complex comprising scaffolding and adaptor proteins.

Fuente: Lau and Zukin (2007) Nature Reviews Neuroscience 8, 413-426



REGULACIÓN ESPACIO-TEMPORAL DEL TRÁFICO VESICULAR: EL PAPEL DE LAS GTPasas RAB



A model for Rab GTPases function in integrin traffic. The migrating cell is extending lamellipodia where actin is polymerized as a meshwork of branched filaments. Integrin-containing structures (focal complexes) are formed at the base of the extending edge of lamellipodia and matured into focal adhesion. Integrins may internalize via Rab21-positive endosome and Rab5-positive endosome and recycle via the Rab4-recycling pathway or the Rab11-recycling pathway.

Fuente: Lanzetti (2007) Current Opinion in Cell Biology, Volume 19, pp. 453-458.

Microtubule-based transport and intracellular trafficking pathways.

Many intracellular trafficking pathways involve active and directed transport along the microtubule cytoskeleton. Microtubule-dependent trafficking in mammalian cells includes:

(a,b,c) ER-to-Golgi transport,

(d) TGN-to-ER transport and (e) lysosomal, (f,g) endosomal and (h) mitochondrial motility.

The direction of organelle transport along the microtubule is denoted with black arrows (towards the MTOC is minus end directed, away from the MTOC is plus end-directed).

Fuente: Caviston and Holzbaur, 2006