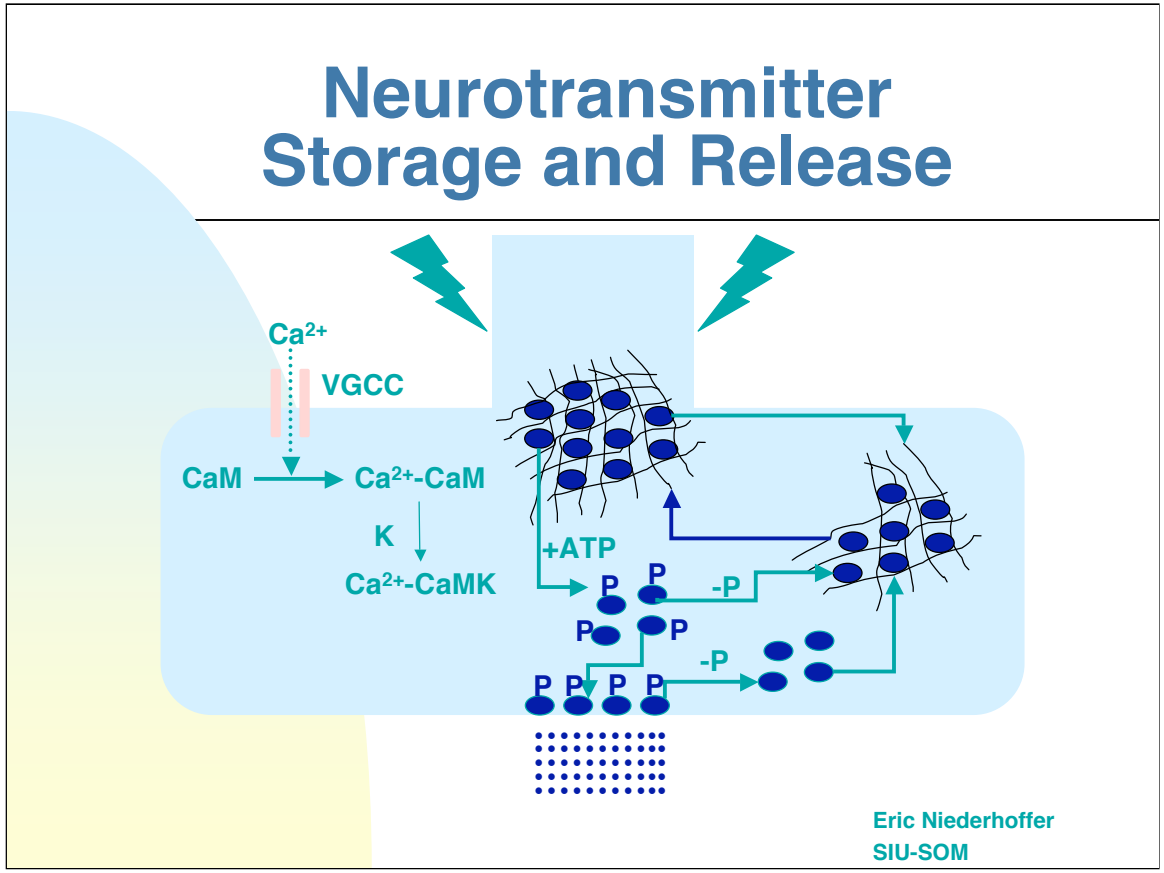
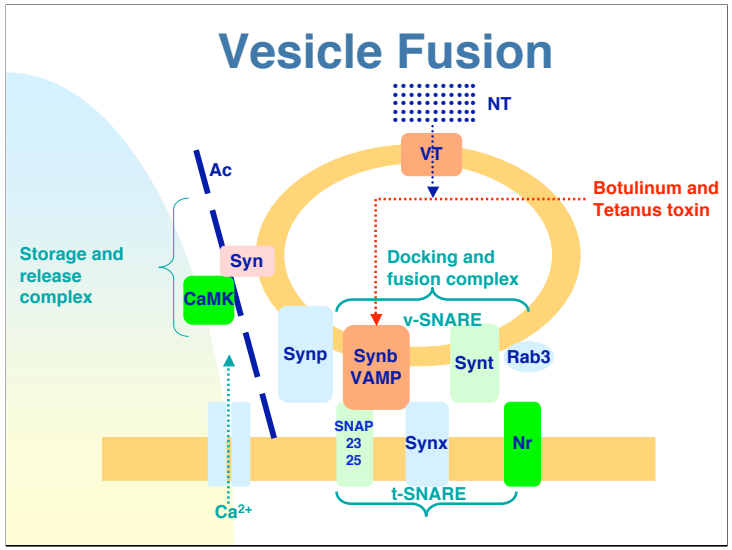


VGCC: voltage-gated calcium channel **CaM**: calmodulin **K**: kinase (I or II)

ATP: adenosine triphosphate **P**: phosphate



VT: vesicle transporter **Ac**: actin

Syn: synapsin **NT**: neurotransmitter

CaMK: calmodulin kinase **Synp**: synaptophysin

Synb: synaptobrevin (R motif) = VAMP **VAMP**: vesicle-associate membrane protein (recycled with vesicles)

Synx: syntaxin (Q_a motif) **Synt**: synaptotagmin, Ca^{2+} sensing, interacts with syntaxin

Nr: neurexin (alignment of vesicles)

Rab3: GTP-binding protein, recruitment of vesicle docking proteins

SNAP: soluble NSF attachment proteins, NSF - *N*-ethylmaleimide-sensitive fusion protein, SNAP25 (Q_b, Q_c motifs)

SNARE: synaptosome-associated receptor, SNARE motifs (R, Q_a, Q_b, Q_c)

v-SNARE: vesicle SNAP receptor (synaptobrevin)

t-SNARE: target SNAP receptor (syntaxin, SNAP23, SNAP25), most remain associated with plasma membrane

Complexin arrests hemifusion complex (VAMP, SNAP25, syntaxin-1A), synaptotagmin relieves complexin arrest

Review Questions

- How are neurotransmitters packaged and released (signal transduction pathway, second messenger, transporters, receptors)?