Bch 308

6: Discuss in details the synthesis of two named neurotransmitters? 1) Dopamine: this is synthesized from Amino acid tyrosine, which is taking up into the brain via an active transport mechanism. Once formed, L- dope is rapidly converted to Dopamine by dope decarboxylase which is located in the cytoplasm. Mechanism of action: dopamine is administered as a continuous intravenous infusion. At low doses, dopamine preferentially stimulates D1 and D2 receptors in the renal vesculative which leads to vasodilation and promotes renal blood flow to preserve glomerular filtration

. 2) Acetylcholine: it is synthesized in certain neuron by the enzyme chlorine acetytransferase from the compounds choline and acetyl- CoA. The enzyme Acetylcholinecsterase converts Acetylcholine into the inactive metabolites choline and acetate. Acetylcholine is stored until the neurotransmitters needs to be released. After it’s synthesis, Acetylcholine (Ach) is packed into vesicles. Ach is transported from the cytoplasm into individual vesicles by means of a carrier protein on the vesicle membrane called the Vesicular Ach transport (VAChT).