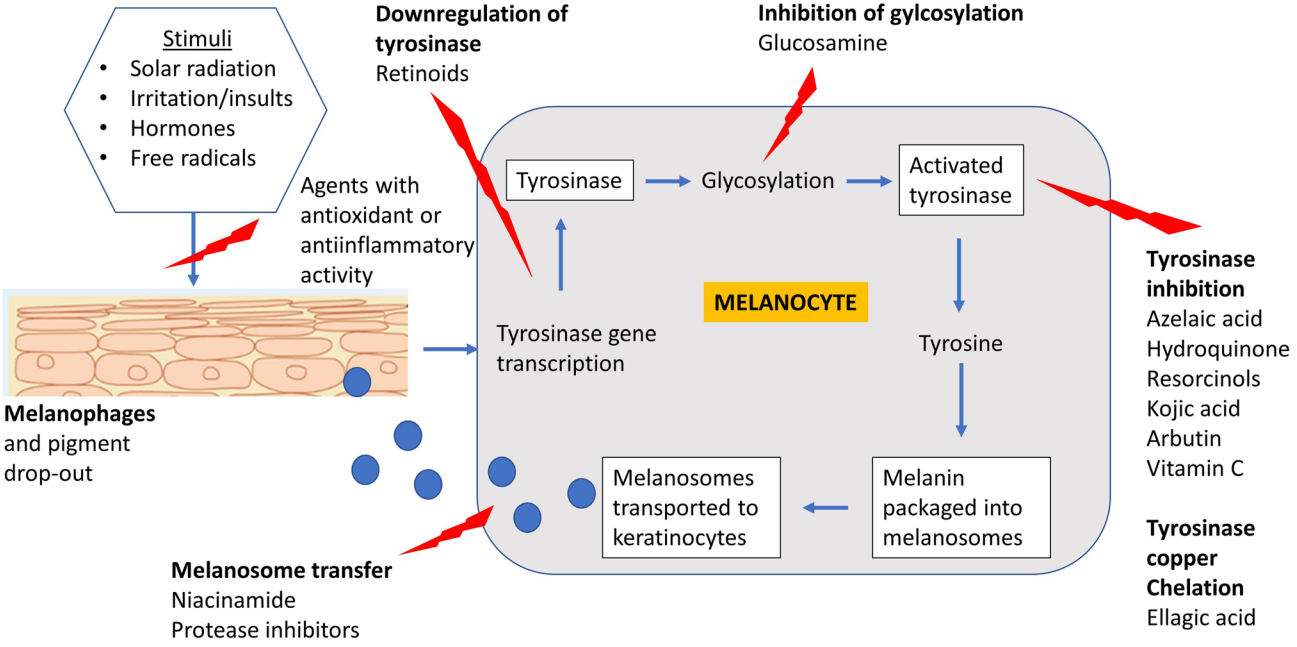
Stimuli
Solar radiation
Irritation/insults
Hormones
Free radicals
Downregulation of tyrosinase
Retinoids
Inhibition of gylcosylation
Glucosamine
Agents with antioxidant or antiinflammatory activity
Tyrosinase
Glycosylation
Activated tyrosinase
MELANOCYTE
Tyrosine
Tyrosinase gene transcription
Melanosomes transported to keratinocytes
Melanin packaged into melanosomes
Melanophages and pigment drop-out
Melanosome transfer
Niacinamide
Protease inhibitors
Tyrosinase inhibition
Azelaic acid
Hydroquinone
Resorcinols
Kojic acid
Arbutin
Vitamin C
Tyrosinase copper Chelation
Ellagic acid