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辅酶Q₁₀天然维生素E软胶囊的稳定性研究

The stability study on coenzyme Q₁₀ natural vitamin E soft capsules

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中文关键词: [辅酶Q₁₀](#) [还原型辅酶Q₁₀](#) [天然维生素E](#) [d-α-生育酚](#) [d-α-醋酸生育酚](#) [存在形态](#)

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作者	单位	E-mail
陈延董	安利中国日用品有限公司,广东 广州 510730	18928666393@163.com
陈志霞	安利中国日用品有限公司,广东 广州 510730	
俞斐	安利中国日用品有限公司,广东 广州 510730	
梁颖臻	安利中国日用品有限公司,广东 广州 510730	

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中文摘要:

研究以辅酶Q₁₀天然维生素E为主要原料的软胶囊产品的稳定性。方法 不同配方的样品,经过加速试验后,用高效液相色谱法和气相色谱法分别测定辅酶Q₁₀和天然维生素E的含量,并检测辅酶Q₁₀的存在形态。结果 辅酶Q₁₀单独使用或者与维生素E(d-α-醋酸生育酚)配伍使用时,辅酶Q₁₀存在形态为氧化型,其含量经加速试验前后无明显差别。辅酶Q₁₀与维生素E(d-α-生育酚)配伍使用时,氧化型和还原型辅酶Q₁₀共同存在,氧化型含量逐渐降低,还原型含量逐渐升高,两者的含量之和在加速试验前后无明显差别,d-α-生育酚的含量略有降低。结论 辅酶Q₁₀单独使用或者与维生素E(d-α-醋酸生育酚)配伍使用时,配方稳定。辅酶Q₁₀与维生素E(d-α-生育酚)配伍使用时,辅酶Q₁₀会逐渐转化为还原型辅酶Q₁₀,d-α-生育酚的含量降低。

Abstract:

To investigate the stability of natural vitamin E coenzyme Q₁₀ soft capsules with different formula.Methods The content of coenzyme Q₁₀ and vitamin E of coenzyme Q₁₀ soft capsule samples with different formulas were analyzed quantitatively with high performance liquid chromatogram (HPLC) and gas chromatogram (GC) respectively. At the same time, the existing forms of coenzyme Q₁₀ were also determined. Results In the formulas with only coenzyme Q₁₀ or coenzyme Q₁₀ combined with vitamin E (d-α-tocopherol acetate) as active ingredients, the existing form of coenzyme Q₁₀ was oxidized form (CoQ₁₀), both coenzyme Q₁₀ and d-α-tocopherol acetate were stable during the accelerated stability test. In the formula with coenzyme Q₁₀ combined with vitamin E (d-α-tocopherol) as active ingredients, both oxidized coenzyme Q₁₀ (CoQ₁₀) and reduced coenzyme Q₁₀ (CoQ₁₀H₂) existed, CoQ₁₀ content decreased and CoQ₁₀H₂ content increased, the total amount showed no significant difference before and after the accelerated stability test, while the d-α-tocopherol amount reduced to a certain degree.Conclusion The formulas with only coenzyme Q₁₀ or coenzyme Q₁₀ combined with vitamin E (d-α-tocopherol acetate) were stable. In the formula with coenzyme Q₁₀ combined with vitamin E (d-α-tocopherol), CoQ₁₀ would be converted into CoQ₁₀H₂ and the d-α-tocopherol content decrease.

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地址:北京市朝阳区广渠路37号院2号楼501室 邮编:100022

E-mail:spws462@163.com 电话/传真:010-52165456/5441(编辑室) 010-52165556(主编室)

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