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六味地黄生物制剂多糖对果蝇抗氧化作用的影响

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作者	单位	E-mail
丘婷	广东药学院中药学院,广州 510006	
吴思	广东药学院中药学院,广州 510006	
陈朋	广东药学院中药学院,广州 510006	
李天河	广东药学院中药学院,广州 510006	
赵越	广东药学院中药学院,广州 510006	zybmbylk688@163.com

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中文摘要:目的: 观察六味地黄生物制剂多糖(LW-PSB多糖)对果蝇抗氧化作用的影响。 方法: 采用美国野生型黑腹果蝇为实验对象,收集8 h内羽化未交配果蝇,雌雄分开,在温度为(25±1) ℃,相对湿度为(60±5)%的人工气候箱中用培养基进行培养,将果蝇随机分为阴性对照组(普通培养基),阳性对照维生素C组(添加维生素C 1 g·kg^{-1}的培养基),LW-PSB多糖低、中、高剂量组(含不同浓度的LW-PSB多糖的培养基,浓度依次为1,3,9 g·kg^{-1}),共5组,每组雌、雄各500 只。果蝇30 d龄时分别制成匀浆,测定果蝇体内超氧化物歧化酶(SOD)、过氧化氢酶(CAT)、谷胱甘肽过氧化物酶(GSH-Px)、总抗氧化物(TAOC)活性及丙二醛(MDA)含量。 结果: 与阴性对照组比较,LW-PSB多糖各剂量组能提高果蝇SOD,CAT,GSH-Px和TAOC活性(P<0.05,P<0.01或P<0.001),降低MDA含量(P<0.01或P<0.001);与维生素C组比较,LW-PSB多糖各剂量组能不同程度地提高GSH-Px和TAOC活性(P<0.05或P<0.001),降低MDA含量(P<0.01或P<0.001)。 结论: 六味地黄生物制剂多糖饲喂果蝇可提高果蝇体内的抗氧化能力。

中文关键词:六味地黄生物制剂多糖 黑腹果蝇 抗氧化

Effect of Polysaccharides Extracting from Liuwei Dihuang Decoction Metabolized by Photosynthetic Bacteria on Antioxidative Ability of *Drosophila melanogaster*

Abstract: Objective:To investigate effect of polysaccharides extracting from Liuwei Dihuang decoction metabolized by photosynthetic bacteria (LW-PSB) on the antioxidative ability of *Drosophila melanogaster*. Method: Eight h eclosion unmated (D. melanegaster) were collected. Male and female were separated, cultivated in the artificial box with the culture medium at the temperature of (25±1) ℃, relative humidity for(60±5)%.*D. melanogaster* were randomly divided into 5 groups: negative control group, positive control group, LW-PSB polysaccharides groups(1,3,9 g·kg^{-1}).Thirty-day old *D. melanogaster* were made into homogenate and the liveness of superoxide dismutase (SOD), catalase (CAT), glutathione peroxidase (GSH-Px), total antioxidant capacity (TAOC) and the malonaldehyde (MDA) content were detected. Result: Compared with the negative group, the antioxidase activity such as SOD,CAT,GSH-Px,TAOC of 30-day old *D. melanogaster* were significantly increased (P<*0.05*,P<0.01 or P<0.001) and the MDA content was decreased(P<0.01 or P<0.001).Compared with the positive group, the antioxidase activity such as GSH-Px,TAOC of 30-day old *D. melanogaster* were significantly increased(P<0.05 or P<0.001) and the MDA content was decreased(P<0.01 or P<0.001). Conclusion: LW-PSB polysaccharides might have a satisfactory effect on anti-oxidant.

keywords:LW-PSB polysaccharides *Drosophila melanogaster* antioxidase

地址：北京东直门内南小街16号邮编：100700

电话：010-84076882 在线咨询 京ICP备09084417号