

Fucoidan enhances the anti-tumor effect of anti-PD-1

immunotherapy by regulating gut microbiota

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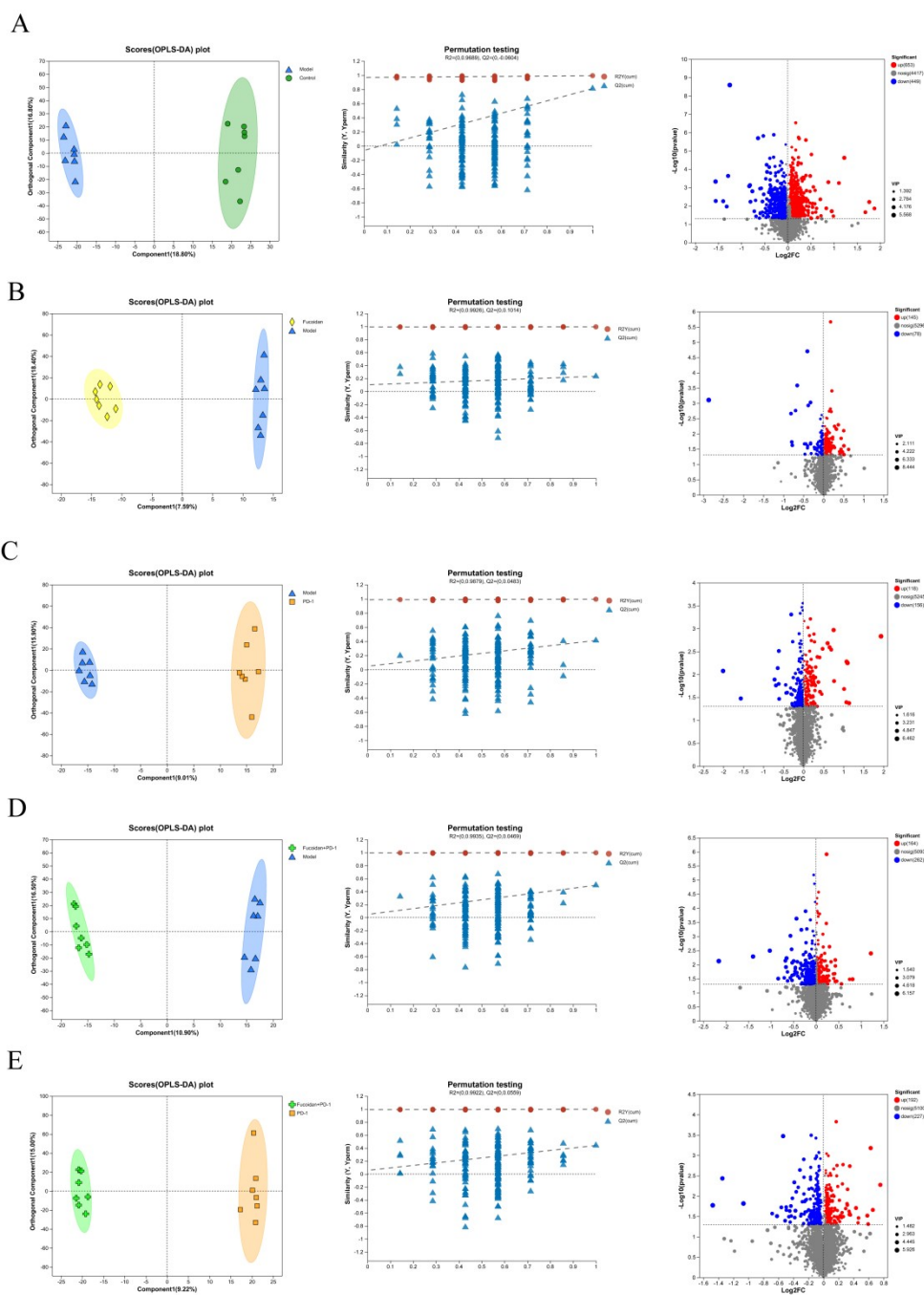


Figure S1. (A) OPLS-DA analysis of Control group and Model group ($R^2X(\text{cum})=0.537$, $R^2Y(\text{cum})=0.994$, $Q^2(\text{cum})=0.812$); OPLS-DA replacement test of Control group and Model group; Volcanic map of

difference between Control group and Model group. (B) OPLS-DA analysis of Fucoidan group and Model group($R^2X(\text{cum})=0.397$, $R^2Y(\text{cum})=0.995$, $Q^2(\text{cum})=0.233$); OPLS-DA replacement test of Fucoidan group and Model group; Volcanic map of difference between Fucoidan group and Model group. (C) OPLS-DA analysis of PD-1 group and Model group($R^2X(\text{cum})=0.446$, $R^2Y(\text{cum})=0.995$, $Q^2(\text{cum})=0.411$); OPLS-DA replacement test of PD-1 group and Model group; Volcanic map of difference between PD-1 group and Model group. (D) OPLS-DA analysis of Fucoidan+PD-1 group and Model group($R^2X(\text{cum})=0.377$, $R^2Y(\text{cum})=0.997$, $Q^2(\text{cum})=0.496$); OPLS-DA replacement test of Fucoidan+PD-1 group and Model group; Volcanic map of difference between Fucoidan+PD-1 group and Model group. (E) OPLS-DA analysis of Fucoidan+PD-1 group and PD-1 group($R^2X(\text{cum})=0.322$, $R^2Y(\text{cum})=0.995$, $Q^2(\text{cum})=0.416$); OPLS-DA replacement test of Fucoidan+PD-1 group and PD-1 group; Volcanic map of difference between Fucoidan+PD-1 group and PD-1 group. $R^2X(\text{cum})$ and $R^2Y(\text{cum})$ represent cumulative interpretation rates; Q^2 indicates the forecasting ability of the model. The closer the three indicators are to 1, the more stable and reliable the model is. $Q^2 > 0.5$ indicates that the model has better forecasting ability, while $Q^2 < 0.5$ indicates that the model has poor forecasting ability. Each dot in the diagram represents a specific metabolite, and the size of the dot represents the VIP value. The point on the left is the metabolite whose expression difference is down-regulated, and the point on the right is the metabolite whose expression difference is up-regulated. The more the point on the left and right and the point on the upper side, the more significant the expression difference is.