Supplement Table.S2 The predicted targets of CP components and predicted targets linked lipid targets through protein-protein interactions

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Predicted target | Lipids target | Astragalin | Quercetin | Kaempferol | Neochlorogenic acid | Chlorogenic acid | 4-hydroxybenzoic acid | Gallic acid | Quadranoside IV | Asiatic acid |
| ABCC1 | STT3B | √ | √ | √ |  |  |  |  |  |  |
| ALOX12 | PLA2G12A | √ | √ | √ |  |  |  |  |  |  |
| ALOX12 | PLA2G3 | √ | √ | √ |  |  |  |  |  |  |
| ALOX15 | PLA2G12A | √ | √ | √ |  |  |  |  |  |  |
| ALOX15 | PLA2G3 | √ | √ | √ |  |  |  |  |  |  |
| ALOX15 | PLA2G4D | √ | √ | √ |  |  |  |  |  |  |
| APP | PIK3CA | √ | √ | √ | √ | √ |  |  |  |  |
| APP | PLD2 | √ | √ | √ | √ | √ |  |  |  |  |
| BCL2 | PIK3C3 | √ | √ | √ |  |  |  | √ |  |  |
| BCL2 | PIK3CA | √ | √ | √ |  |  |  | √ |  |  |
| BCL2 | PIK3CB | √ | √ | √ |  |  |  | √ |  |  |
| BCL2 | PLA2G1B | √ | √ | √ |  |  |  | √ |  |  |
| BCL2 | PLD2 | √ | √ | √ |  |  |  | √ |  |  |
| CA9 | PTEN | √ | √ | √ | √ | √ |  | √ |  |  |
| CYP2C9 | PLA2G12A | √ | √ | √ |  |  |  |  |  |  |
| CYP2C9 | PLA2G3 | √ | √ | √ |  |  |  |  |  |  |
| ACE | PIK3C2A |  |  |  |  |  | √ |  |  |  |
| CES1 | LIPA |  |  |  |  |  | √ |  |  |  |
| CES1 | LRAT |  |  |  |  |  | √ |  |  |  |
| FYN | PIK3CA |  |  |  | √ | √ |  |  |  |  |
| FYN | PIK3CB |  |  |  | √ | √ |  |  |  |  |
| FYN | PIP5K1C |  |  |  | √ | √ |  |  |  |  |
| FYN | PLD2 |  |  |  | √ | √ |  |  |  |  |
| PSMB8 | PNLIP |  |  |  |  |  |  | √ |  |  |
| PTPN1 | PIK3CA |  |  |  |  |  |  |  | √ | √ |
| PTPN1 | PIK3CG |  |  |  |  |  |  |  | √ | √ |
| PTPN1 | PLD2 |  |  |  |  |  |  |  | √ | √ |
| PTPN2 | PIK3CB |  |  |  |  |  |  |  | √ | √ |

Supplement Table. S3 The components-predicted target-lipids target network of CP.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| FlavonoidsQuercetin; Kaempferol | Association withDiabetic dyslipidemia  | Pharmacology experiment |  Predicted targets linked lipids targets | Association withDiabetic dyslipidemia  | Experimental validation of protein-protein interactions  |
| Predicted targets  |
| ABCC1 | (Behdad et al., 2017) | (Chen et al., 2018) | STT3B |  |  |
| ALOX12 | (Burdon et al., 2010) | (Kizawa et al., 2017) | PLA2G12APLA2G3 |  | √ |
| ALOX15 | (Zhao et al., 2011) | (Luiz da Silva et al., 1998) | PLA2G3PLA2G4D  |  |  |
| APP | (Hamilton et al., 2014) | (Martin-Aragon et al., 2016) | PIK3CA | (Ramachandran and Saravanan, 2015) |  |
| PLD2 |  |  |
| BCL2 | (Tomita, 2016) | (Chander et al., 2014) | PIK3CAPIK3CBPIK3C3 |  |  |
| PLA2G1B |  |  |
| PLD2 |  |  |
| CA9 |  |  | PTEN | (Birnbaum et al., 2014) |  |
| CYP2CP | (Klen et al., 2014) | (Bedada and Neerati, 2018) | PLA2G12APLA2G3 |  |  |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Organic acids | Predicted targets | Association with diabetic dyslipidemia | Pharmacology experiment | Predicted targets linked lipids targets | Association with diabetic dyslipidemia | Experimental validation of protein-protein interactions |
| Chlorogenic acid and neochlorogenic acid | APP | √ |  | PIK3CA | √ |  |
| APP | √ |  | PLD2 | √ |  |
| CA2 | (Biswas and Kumar, 2012) |  | PTEN | √ |  |
| FYN | (Lv et al., 2016) | (Kang et al., 2009) | PIK3CAPIK3CB | √ | √ |
| PIP5K1C |  | √ |
| PLD2 | √ | √ |
| Gallic acid | BCL2 | √ | (Yoon et al., 2013) | PIK3CAPIK3CBPIK3C3 | √ | √ |
| PLA2G1B | √ |  |
| PLD2 | √ |  |
| CA2 | √ |  | PTEN | √ |  |
| PSMB8 |  |  | PNLIP |  |  |
| 4-Hydrobenzoic acid | ACE | (Settin et al., 2015) |  | PIK3C2A | √ |  |
| CES1 | (Xu et al., 2014) |  | LIPA |  |  |
| CYP2C9 | √ |  | LRAT |  | √ |
| PTPN1 | √ |  | PIK3CAPIK3CBPIK3C3 |  | √ |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Saponins: Quadranoside IV and Asiatic acid | Association with diabetic dyslipidemia | Pharmacology experiment | Predicted targets linked lipids targets | Association with diabetic dyslipidemia | Experimental validation of protein-protein interactions |
| Predicted targets |
| PTPN1 | (Cheyssac et al., 2006) |  | PIK3CAPIK3CGPIK3CB | √ |  |
| PTPN1 |  | PLD2 | √ |  |

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