**Table 2.** Studies of Metabolites Isolated from Erythrina Genus Plants on Different Pharmacological Assays

|  |  |  |  |
| --- | --- | --- | --- |
| Name of Metabolite isolated from Erythrina Genus Plants | Chemical Structure(Molecular Formula; PubChem CID) | Pharmacological Assay Method | Reference |
| **Flavonoids**  |
| 5-Hydroxysophoranone  | (C30H36O5; PubChem CID 42607927) | *In vitro* α-glucosidase inhibitory assay using acarbose as a positive control. | [5] |
| *In vitro* glycation inhibitory assay using quercetin as a positive control. | [5] |
| *In vitro* antiplasmodial activity against *P. falciparum* | [52] |
| 4′-hydroxy-6,3′,5′-triprenylisoflavanone | The chemical structure is not available in PubChem. | *In vitro* glycation inhibitory assay using quercetin as a positive control. | [5] |
| *In vitro* α-glucosidase inhibitory assay using acarbose as a positive control. | [5] |
| Pinocembrin | (C15H12O4; PubChem CID 68071) | *In vitro* α-glucosidase inhibitory assay using acarbose as a positive control. | [5] |
| *In vitro* glycation inhibitory assay using quercetin as a positive control. | [5] |
| 3,6,4′-trihydroxy flavone | The chemical structure is not available in PubChem. | *In vitro* α-glucosidase inhibitory assay using acarbose as a positive control. | [5] |
| *In vitro* glycation inhibitory assay using quercetin as a positive control. | [5] |
| 3,6-dihydroxyflavone | (C15H10O4; PubChem CID 688659) | *In vitro* α-glucosidase inhibitory assay using acarbose as a positive control. | [5] |
| *In vitro* glycation inhibitory assay using quercetin as a positive control. | [5] |
| 5-methoxy-7-hydroxy flavone | The chemical structure is not available in PubChem. | *In vitro* α-glucosidase inhibitory assay using acarbose as a positive control. | [5] |
| *In vitro* glycation inhibitory assay using quercetin as a positive control. | [5] |
| Lupalbigenin | (C25H26O5; PubChem CID 10001388) | *In vitro* α-glucosidase inhibitory assay using acarbose as a positive control. | [5] |
| *In vitro* glycation inhibitory assay using quercetin as a positive control. | [5] |
| Erysubin F | (C25H26O4; PubChem CID 12051847) | *In vitro* α-glucosidase inhibitory assay using acarbose as a positive control. | [5] |
| *In vitro* glycation inhibitory assay using quercetin as a positive control. | [5] |
| Genistein | (C15H10O5; PubChem CID 5280961) | *In vitro* α-glucosidase inhibitory assay using acarbose as a positive control. | [5] |
| *In vitro* glycation inhibitory assay using quercetin as a positive control. | [5] |
| Estrogenic activity on 1-month-old immature female CD-1 mice *(Mus musculus*) | [42] |
| 8-prenyl genistein | The chemical structure is not available in PubChem. | Estrogenic activity on 1-month-old immature female CD-1 mice *(Mus musculus*) | [42] |
| 7,2′,4′-trihydroxy-8,3′,5′-(3″-methyl-but-2″-enyl) flavanone | The chemical structure is not available in PubChem. | *In vitro* α-glucosidase inhibitory assay using acarbose as a positive control. | [5] |
| *In vitro* glycation inhibitory assay using quercetin as a positive control. | [5] |
| Abyssinone V | (C25H28O5; PubChem CID 442153) | *In vitro* α-glucosidase inhibitory assay using acarbose as a positive control. | [5] |
| *In vitro* glycation inhibitory assay using quercetin as a positive control. | [5] |
| Abyssinone V-4′ methyl ether |  (C26H30O5; PubChem CID 6548074) | Antibacterial activity on Gram-negative and Gram-positive strains. | [18] |
| Eryzerin C | (C25H30O4; PubChem CID 10092034) | Antibacterial activity on Gram-negative and Gram-positive strains. | [18] |
| Lysisteisoflavone | (C21H22O6; PubChem CID 5319135) | Antibacterial activity on Gram-negative and Gram-positive strains. | [18] |
| Wighteone (synonym = erythrinin B) |  (C20H18O5; PubChem CID 5281814) | Antidiabetic and antiobesity by inhibiting PTP1B activity | [31] |
| Alpumisoflavone |   (C20H16O5; PubChem CID5490139) | Antibacterial activity on Gram-negative and Gram-positive strains. | [18] |
| Anticancer activity on human leukemia HL-60 cells | [24] |
| Anticancer activity on human lung cancer cell lines H2108 and H1299 | [25] |
| 4'-methoxy licoflavanone | The chemical structure is not available in PubChem. | Anticancer activity on human leukemia HL-60 cells | [24] |
| Licoflavanone-4’-O-methyl ether | The chemical structure is not available in PubChem. | Antidiabetic and antiobesity by inhibiting PTP1B activity  | [31] |
| 2’,7-dihydroxy-4’-methoxy-5’-(3-methyl but-2-enyl) isoflavone  | The chemical structure is not available in PubChem. | Antidiabetic and antiobesity by inhibiting PTP1B activity  | [31] |
| Parisoflavone B | The chemical structure is not available in PubChem. | Antidiabetic and antiobesity by inhibiting PTP1B activity  | [31] |
| Derrone | (C20H16O5; PubChem CID14704457) | Aurora kinase inhibitor on recombinant Aurora A, Aurora B, Aurora A domain, and histone H3 proteins expressed as N-terminal His6-tagged fusion proteins in *E. coli* | [50] |
|  |
| **Pterocarpans**  |
| Eryvarin E | (C26H28O4; PubChem CID 15546809) | *In vitro* α-glucosidase inhibitory assay using acarbose as a positive control. | [5] |
| *In vitro* glycation inhibitory assay using quercetin as a positive control. | [5] |
| Coumestrol | (C15H8O5; PubChem CID 5281707) | *In vitro* α-glucosidase inhibitory assay using acarbose as a positive control. | [5] |
| *In vitro* glycation inhibitory assay using quercetin as a positive control. | [5] |
| Eryvarin D | (C21H20O4; PubChem CID 15546808) | *In vitro* α-glucosidase inhibitory assay using acarbose as a positive control. | [5] |
| *In vitro* glycation inhibitory assay using quercetin as a positive control. | [5] |
| 1-methoxyerythrabyssin II |  (C26H30O5; PubChem CID 24761044) | *In vitro* α-glucosidase inhibitory assay using acarbose as a positive control. | [5] |
| *In vitro* glycation inhibitory assay using quercetin as a positive control. | [5] |
| Erythrabyssin II |  (C25H28O4; PubChem CID 5086400) | *In vitro* α-glucosidase inhibitory assay using acarbose as a positive control. | [5] |
| *In vitro* glycation inhibitory assay using quercetin as a positive control. | [5] |
| Erycristagallin |  (C25H26O4; PubChem CID 10362969) | *In vitro* α-glucosidase and α-amylase inhibitory assay using acarbose as a positive control. | [5] |
| *In vitro* glycation inhibitory assay using quercetin as a positive control. | [5] |
| Erythribyssin N | (C21H18O5; PubChem CID 46210318) | *In vitro* α-glucosidase and α-amylase inhibitory assay using acarbose as a positive control. | [5] |
| *In vitro* glycation inhibitory assay using quercetin as a positive control. | [5] |
| Erycristin | (C26H30O4; PubChem CID 13994537) | *In vitro* α-glucosidase and α-amylase inhibitory assay using acarbose as a positive control. | [5] |
| *In vitro* glycation inhibitory assay using quercetin as a positive control. | [5] |
| Sandwicensin | (C21H22O4; PubChem CID 467498) | *In vitro* α-glucosidase and α-amylase inhibitory assay using acarbose as a positive control | [5] |
| *In vitro* glycation inhibitory assay using quercetin as a positive control. | [5] |
| Gangetin  | (C26H28O5; PubChem CID 317611) | *In vitro* α-glucosidase and α-amylase inhibitory assay using acarbose as a positive control | [5] |
| *In vitro* glycation inhibitory assay using quercetin as a positive control. | [5] |
| Erypoegin J | (C26H28O5; PubChem CID 11133568) | *In vitro* α-glucosidase and α-amylase inhibitory assay using acarbose as a positive control | [5] |
| *In vitro* glycation inhibitory assay using quercetin as a positive control. | [5] |
| Erybraedin A |  (C25H28O4; PubChem CID 362562) | Antibacterial activity on Gram-negative and Gram-positive strains. | [18] |
| Phaseollidin |  (C20H20O4; PubChem CID 119268) | *In vitro* α-glucosidase and α-amylase inhibitory assay using acarbose as a positive control | [5] |
| Antibacterial activity on Gram-negative and Gram-positive strains. | [18] |
| Cytotoxicity activity using brine shrimp lethal toxicity assay | [54] |
| Orientanol C |  (C25H26O6; PubChem CID 42607512) | Anticancer activity on H4IIE hepatoma cells. | [26] |
| *In vitro* α-glucosidase and α-amylase inhibitory assay using acarbose as a positive control | [5] |
| Cristacarpin |  (C21H22O5; PubChem CID 126540) | Antibacterial activity on Gram-negative and Gram-positive strains. | [18] |
| Anticancer activity on H4IIE hepatoma cells. | [26] |
| Calopocarpin |  (C20H20O4;PubChem CID11709595) | Anticancer activity on H4IIE hepatoma cells. | [26] |
| Isoneorautenol |  (C20H18O4; PubChem CID 73649) | Anticancer activity on H4IIE hepatoma cells. | [26] |
| Neorautenol  |   (C20H18O4; PubChem CID 11500744) | Anticancer activity on H4IIE hepatoma cells. | [26] |
| Phaseollin |   (C20H18O4; PubChem CID 91572) | Anticancer activity on H4IIE hepatoma cells. | [26] |
|  |
| **Alkaloids** |
| Hydroxyerysotrine | (C19H23NO4; PubChem CID 91572) | Anticancer activity on human leukemia HL-60 cells | [24] |
| Erythraline | (C18H19NO3; PubChem CID 5317205) | Anti-inflammatory by inhibiting NO production on RAW264.7 cells | [41] |
| Leishmanicidal activity against the promastigote forms of *L. amazonensis* obtained from infected mice | [45] |
| Curare-like action on frogs | [55] |
| Erythrinine | (C18H19NO4; PubChem CID 3084503) | Anti-inflammatory by inhibiting NO production on RAW264.7 cells | [41] |
| Hypaphorine | (C14H19N2O2; PubChem CID 442106) | Anti-inflammatory by inhibiting NO production on RAW264.7 cells | [41] |
| Erythramine | (C18H21NO3; PubChem CID 101289752) | Curare-like action on frogs | [55] |
| Erythratine | (C18H21NO4; PubChem CID 617879) | Curare-like action on frogs | [55] |
| Beta-erythroidine | (C16H20ClNO3; PubChem CID 54601205) | Curare-like action on frogs | [55] |
|  |
| **Glycosides** |
| Vitexin | (C21H20O10; PubChem CID 5280441) | Modulator of fear memory on male Wistar rats (*Rattus norvegicus*) | [49] |
| Isovitexin | (C21H20O10; PubChem CID 162350) | Modulator of fear memory on male Wistar rats (*Rattus norvegicus*) | [49] |
| Diosmetin-6-C-glucoside | (C22H22O11; PubChem CID 162350) | Modulator of fear memory on male Wistar rats (*Rattus norvegicus*) | [49] |
| Vicenin 2 | (C27H30O15; PubChem CID 442664) | Modulator of fear memory on male Wistar rats (*Rattus norvegicus*) | [49] |
|  |
| **Coumarins** |
| Xanthoxyletin |   (C15H14O4; PubChem CID 66548) | Anticancer activity on SGC-7901 cells. | [27] |
|  |
| **Triterpenoids** |
| Sophoradiol | (C30H50O2; PubChem CID 9846221) | *In vitro* antiplasmodial activity against *P. falciparum* | [52] |
| Lupeol | (C30H50O; PubChem CID 259846) | *In vitro* antiplasmodial activity against *P. falciparum* | [52] |
| Cycloeucalenol | The chemical structure is not available in PubChem. | *In vitro* antiplasmodial activity against *P. falciparum* | [52] |
| Melilotigenin C | (C30H48O3; PubChem CID 10551785) | *In vitro* antiplasmodial activity against *P. falciparum* | [52] |
|  |
| **Chromenes** |
| 2,2-dimethyl-2H-chromene-6-carboxaldehyde | The chemical structure is not available in PubChem. | *In vitro* glycation inhibitory assay using quercetin as a positive control. | [5] |
| *In vitro* α-glucosidase inhibitory assay using acarbose as a positive control. | [5] |
|  |
| **Steroids** |
| Stigmast-4-en-3-one | (C29H48O; PubChem CID 5484202) | *In vitro* antiplasmodial activity against *P. falciparum* | [52] |
| Stigmasta-4,22-dien-3-one | (C29H46O; PubChem CID 6442194) | *In vitro* antiplasmodial activity against *P. falciparum* | [52] |
| 3beta-hydroxystigmast-5-en-7-one | (C29H48O2; PubChem CID 160608) | *In vitro* antiplasmodial activity against *P. falciparum* | [52] |
| 3beta-hydroxystigmast-5,22-dien-7-one | The chemical structure is not available in PubChem. | *In vitro* antiplasmodial activity against *P. falciparum* | [52] |
|  |
| **Carboxylic Acids** |
| 2-hydroxy-4-methoxy-cinnamic acid | (C10H10O4; PubChem CID 20985633) | *In vitro* glycation inhibitory assay using quercetin as a positive control. | [5] |
| *In vitro* α-glucosidase inhibitory assay using acarbose as a positive control. | [5] |
| **Total = 63 metabolites** |