VP Genetic Results

Prepared for: example

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Metformin

An antimetabolite antineoplastic agent with immunosuppressant properties. It interferes with nucleic acid synthesis by inhibiting purine metabolism and is used, usually in combination with other drugs, in the treatment of or in remission maintenance programs for leukemia. [PubChem]

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs622342	⭐⭐	SLC22A1	AA	increased	NA	NA

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs622342**

Patients with the AA genotype and the GG genotype at rs2289669 who have diabetes may have a better response to metformin, as measured by a larger reduction in HbA1c levels, as compared to patients with the CC genotype and the GG genotype at rs2289669. This association is not significant when compared to patients with the CC genotype and the AG or AA genotype at rs2289699. Other genetic and clinical factors may also influence a patients reduction in HbA1c levels with metformin treatment.

Troglitazone

Troglitazone was withdrawn in 2000 due to risk of hepatotoxicity. It was superseded by pioglitazone and rosiglitazone.

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs10811661	★★	Not available	CT	increased	NA	NA

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs10811661**

Patients with the CT genotype and at high risk for type II diabetes who are treated with troglitazone may have increased beta call function as compared to patients with the TT genotype. Other genetic and clinical factors may also influence a patients response to troglitazone.

Aspirin

The prototypical analgesic used in the treatment of mild to moderate pain. It has anti-inflammatory and antipyretic properties and acts as an inhibitor of cyclooxygenase which results in the inhibition of the biosynthesis of prostaglandins. Acetylsalicylic acid also inhibits platelet aggregation and is used in the prevention of arterial and venous thrombosis. [DrugBank]

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs20417	★★	PTGS2	CG	increased	NA	NA

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs20417**

Patients with the CG genotype may have decreased risk of Coronary Disease when treated with aspirin as compared to patients with the CC genotype. However, Allele G may be associated with increased risk of Coronary Disease in people not taking aspirin as compared to allele C. Other genetic and clinical factors may influence patients response to aspirin.

Ritonavir

An HIV protease inhibitor that works by interfering with the reproductive cycle of HIV. [PubChem]

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs5128	★★	APOC3	CC	NA	NA	increased
rs2854116	★★	APOA4	TT	NA	NA	increased
rs2854117	★★	APOA4	CC	NA	NA	decreased

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs5128**

Patients with the CC genotype and HIV who are treated with ritonavir may have an increased risk of triglyceride elevation as compared to patients with the CG or GG genotype.

The description of **rs2854116**

Patients with the TT genotype and HIV who are treated with ritonavir may have increased severity of triglyceride elevation as compared to patients with the CT or CC genotype. Other genetic and clinical factors may also influence a patients triglyceride levels.

The description of **rs2854117**

Patients with the CC genotype and HIV who are treated with ritonavir may have lower triglyceride levels (lower risk of Hypertriglyceridemia) as compared to patients with the TC or TT genotype. Patients with the CC genotype may still be at risk for toxicity when taking ritonavir. Other genetic and clinical factors may also influence a patients triglyceride levels.

Antineoplastic agents

Inhibiting or preventing development of neoplasms; checking maturation and proliferation of malignant cells

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs1042522	★★½	TP53	CC	NA	NA	decreased

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs1042522**

Patients with the CC genotype may have 1) decreased but not absent risk for toxicity 2) increased survival when treated with antineoplastic agents as compared to patients with the CG or GG genotype. Other genetic and clinical factors may also influence a patients response to antineoplastic agents.

Capecitabine

Capecitabine is an orally-administered chemotherapeutic agent used in the treatment of metastatic breast and colorectal cancers. Capecitabine is a prodrug, that is enzymatically converted to fluorouracil (antimetabolite) in the tumor, where it inhibits DNA synthesis and slows growth of tumor tissue.

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs1801131	★★★	MTHFR	GT	NA	NA	increased

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs1801131**

Patients with the GT genotype may have increased risk of Drug Toxicity when treated with capecitabine in people with Colorectal Neoplasms as compared to patients with genotype TT. Other genetic and clinical factors may also influence a patients risk of toxicity to capecitabine.

Carboplatin

An organoplatinum compound that possesses antineoplastic activity.

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs25487	★★½	XRCC1	CC	increased	NA	NA
rs11615	★★½	ERCC1	AG	NA	NA	increased
rs9981861	★★	DSCAM	CT	increased	NA	NA

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs25487**

Patients with the CC genotype may have 1) increased survival and 2) increased risk of severe neutropenia when treated with platinum-based regimens as compared to patients with the CT or TT genotype. Other genetic and clinical factors may also influence response to platinum-based regimens.

The description of **rs11615**

Patients with the AG genotype may have 1) increased risk for toxicity 2) decreased survival when treated with platinum compounds as compared to patients with the GG genotype. Other genetic and clinical factors may also influence a patients response to platinum compounds.

The description of **rs9981861**

Patients with the CT genotype may have increased survival when treated with carboplatin and paclitaxel as compared to patients with the TT genotypes. Other genetic and clinical factors may also influence survival.

Cisplatin

Cisplatin, cisplatinum or cis-diamminedichloroplatinum(II) (CDDP) is a platinum-based chemotherapy drug used to treat various types of cancers, including sarcomas, some carcinomas (e.g. small cell lung cancer, and ovarian cancer), lymphomas and germ cell tumors. It was the first member of its class, which now also includes carboplatin and oxaliplatin.

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs25487	★★½	XRCC1	CC	increased	NA	increased
rs1042522	★★½	TP53	CC	increased	NA	decreased
rs316019	★★	SLC22A2	CC	NA	NA	increased
rs3957357	★★	GSTA1	GG	NA	NA	decreased
rs11615	★★½	ERCC1	AG	NA	NA	increased

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs25487**

Patients with the CC genotype may have 1) increased survival and 2) increased risk of severe neutropenia when treated with platinum-based regimens as compared to patients with the CT or TT genotype. Other genetic and clinical factors may also influence response to platinum-based regimens.

The description of **rs1042522**

Patients with the CC genotype may have 1) decreased but not absent risk for toxicity 2) increased survival when treated with antineoplastic agents as compared to patients with the CG or GG genotype. Other genetic and clinical factors may also influence a patients response to antineoplastic agents.

The description of **rs316019**

Patients with the CC genotype may have increased risk of nephrotoxicity in response to cisplatin treatment as compared to patients with the AC or AA genotype. Other genetic and clinical factors may also influence a patients risk for toxicity.

The description of **rs3957357**

Patients with the GG genotype may have decreased risk for anemia when treated with cisplatin and cyclophosphamide as compared to patients with the AA or AG genotype. Other genetic and clinical factors may also influence response to cisplatin regimens.

The description of **rs11615**

Patients with the AG genotype may have 1) increased risk for toxicity 2) decreased survival when treated with platinum compounds as compared to patients with the GG genotype. Other genetic and clinical factors may also influence a patients response to platinum compounds.

Cyclophosphamide

Precursor of an alkylating nitrogen mustard antineoplastic and immunosuppressive agent that must be activated in the liver to form the active aldophosphamide. It has been used in the treatment of lymphoma and leukemia. Its side effect, alopecia, has been used for defleecing sheep. Cyclophosphamide may also cause sterility, birth defects, mutations, and cancer. [PubChem]

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs25487	★★	XRCC1	CC	increased	NA	NA
rs1042522	★★½	TP53	CC	NA	NA	decreased
rs3957357	★★	GSTA1	GG	NA	NA	decreased
rs2740574	★★	CYP3A4	TT	decreased	NA	NA
rs9561778	★★	ABCC4	GT	NA	NA	increased
rs9561778	★★	ABCC4	GT	NA	NA	increased

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs25487**
Patients with the CC genotype may have 1) increased survival and 2) increased risk of severe neutropenia when treated with cyclophosphamide-containing chemotherapy regimens as compared to patients with the CT or TT genotype. However, all studies evaluated also included platinum drugs which may interact with this variant. Other genetic and clinical factors may also influence response to treatment.

The description of **rs1042522**
Patients with the CC genotype may have 1) decreased but not absent risk for toxicity 2) increased survival when treated with antineoplastic agents as compared to patients with the CG or GG genotype. Other genetic and clinical factors may also influence a patients response to antineoplastic agents.

The description of **rs3957357**
Patients with the GG genotype may have decreased risk for anemia when treated with cisplatin and cyclophosphamide as compared to patients with the AA or AG genotype. Other genetic and clinical factors may also influence response to cisplatin regimens.

The description of **rs2740574**
Premenopausal patients with the TT genotype and breast cancer who are treated with cyclophosphamide may have a shorter period of time before chemotherapy-induced ovarian failure compared to patients with the CC or CT genotype. Other genetic and clinical factors may also influence time to chemotherapy-induced ovarian failure.

The description of **rs9561778**
Patients with the GT genotype and breast cancer who are treated with cyclophosphamide may have an increased risk of adverse drug reactions, in particular neutropenia/ leukopenia and gastrointestinal toxicity, as compared to patients with the GG genotype, or may have a decreased, but not absent, risk of adverse drug reactions, in

particular neutropenia/ leukopenia and gastrointestinal toxicity, as compared to patients with the TT genotype. Other genetic and clinical factors may also influence a patients risk for adverse events with cyclophosphamide treatment.

The description of **rs9561778**

Patients with the GT genotype may have an increased risk of ADR when treated with CAF (cyclophosphamide, doxorubicin and fluorouracil) as compared to patients with the GG genotype. Other genetic and clinical factors may also influence a patients risk for ADRs.

Docetaxel

Docetaxel is a clinically well established anti-mitotic chemotherapy medication used mainly for the treatment of breast, ovarian, and non-small cell lung cancer. Docetaxel binds to microtubules reversibly with high affinity and has a maximum stoichiometry of one mole docetaxel per mole tubulin in microtubules.

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs11045585	★★	SLCO1B3	AG	NA	NA	increased
rs2301159	★★	SLC10A2	AA	NA	NA	increased
rs3734254	★★	PPARD	CT	increased	NA	NA
rs4646487	★★	CYP4B1	CT	NA	NA	increased
rs2740574	★★	CYP3A	TT	NA	NA	NA
rs1056836	★★	CYP1B1	GG	increased	NA	NA
rs12418	★★	CHST3	AG	increased	NA	NA
rs4148950	★★	CHST3	AG	increased	NA	increased

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs11045585**
Patients with the AG genotype and Neoplasms who are treated with docetaxel may have 1) an increased risk of leukopenia, 2) a decreased clearance of docetaxel as compared to patients with the AA genotype. Other genetic and clinical factors may also influence a patients response to docetaxel.

The description of **rs2301159**
Patients with the AA genotype may have an increased risk of toxicity with docetaxel and thalidomide as compared to patients with the GG genotype. Other genetic and clinical factors may also influence treatment response.

The description of **rs3734254**
Patients with the CT genotype may have an increased chance of response to treatment with docetaxel and thalidomide as compared to patients with the CC genotype. Other genetic and clinical factors may also influence treatment response.

The description of **rs4646487**
Patients with the CT genotype may have an increased risk of toxicity with docetaxel and thalidomide as compared to patients with the CC genotypes. Other genetic and clinical factors may also influence treatment response.

The description of **rs2740574**
Patients with the TT genotype may have decreased clearance of docetaxel compared to patients with the CC genotype. Other genetic and clinical factors may also influence clearance of docetaxel.

The description of **rs1056836**
Patients with the GG genotype who are treated with taxanes may have longer disease-free progression as compared to patients with the CC genotype. Other genetic and clinical factors may also influence a patients response.

The description of **rs12418**
Patients with the AG genotype may have an increased chance of response to treatment with docetaxel and thalidomide as compared to patients with the GG genotype. Other genetic and clinical factors may also influence treatment response.

The description of **rs4148950**
Patients with the AG genotype may have an 1) increased chance of response to treatment with docetaxel and thalidomide 2) increased risk of toxicity as compared to patients with the GG genotype. Other genetic and clinical factors may also influence treatment response.

Doxorubicin

Doxorubicin is a cytotoxic anthracycline antibiotic isolated from cultures of Streptomyces peucetius var. caesius. Doxorubicin binds to nucleic acids, presumably by specific intercalation of the planar anthracycline nucleus with the DNA double helix.

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs2070744	★★	NOS3	TT	NA	NA	NA
rs1883112	★★	NCF4	AA	NA	NA	increased
rs4673	★★	CYBA	GG	NA	NA	decreased
rs8133052	★★	CBR3	AA	increased	NA	NA
rs9561778	★★	ABCC4	GT	NA	NA	increased

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs2070744**
Patients with the TT genotype and breast cancer who are not treated with a adjuvant cyclophophamide-based regimens may have shorter disease-free survival as compared to patients with the CC genotype. Other genetic and clinical factors may also influence disease-free survival.

The description of **rs1883112**
Patients with the AA genotype and non-Hodgkin lymphoma who are treated with doxorubicin may have an increased risk for cardiotoxicity as compared to patients with the AG and GG genotype. Other genetic and clinical factors may also influence a patients risk for cardiotoxicity.

The description of **rs4673**
Patients with the GG genotype and non-Hodgkin lymphoma who are treated with doxorubicin may have a decreased, but not absent, risk for cardiotoxicity as compared to patients with the AA genotype. Other genetic and clinical factors may also influence a patients risk for cardiotoxicity.

The description of **rs8133052**
Patients with the AA genotype and breast cancer who are treated with doxorubicin: 1) may have decreased metabolism of doxorubicin 2) may have greater tumor reduction 3) may have increased severity of neutropenia as compared to patients with the GG genotype. Other genetic and clinical factors may also influence a patients response to doxorubicin treatment and risk of toxicity.

The description of **rs9561778**
Patients with the GT genotype may have an increased risk of ADR when treated with CAF (cyclophosphamide, doxorubicin and fluorouracil) as compared to patients with the GG genotype. Other genetic and clinical factors may also influence a patients risk for ADRs.

Erlotinib

Erlotinib hydrochloride (trade name Tarceva, Genentech/OSIP, originally coded as OSI-774) is a drug used to treat non-small cell lung cancer, pancreatic cancer and several other types of cancer.

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs712829	★★	EGFR	GT	NA	NA	decreased
rs712829	★	EGFR	GT	increased	NA	NA

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs712829**

Patients with the GT genotype and cancer who are treated with erlotinib may have decreased severity of Diarrhea compared to patients with the GG genotype. Other genetic and clinical factors may also influence severity of Diarrhea when treated with erlotinib.

The description of **rs712829**

Patients with the GT genotype may be more sensitive to treatment with erlotinib compared to patients with the GG genotype. Other genetic and clinical factors may also influence drug sensitivity.

Fluorouracil

A pyrimidine analog that is an antineoplastic antimetabolite. It interferes with DNA synthesis by blocking the thymidylate synthetase conversion of deoxyuridylic acid to thymidylic acid. [PubChem]

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs25487	★★	XRCC1	CC	increased	NA	NA
rs1042522	★★½	TP53	CC	NA	NA	decreased
rs2070744	★★	NOS3	TT	NA	NA	NA
rs1801131	★★	MTHFR	GT	NA	NA	decreased
rs1801133	★★★	MTHFR	AG	NA	NA	increased
rs1801265	★★	DPYD	AA	NA	NA	decreased
rs9561778	★★	ABCC4	GT	NA	NA	increased

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs25487**
Patients with the CC genotype may have increased response to fluorouracil-containing chemotherapy regimens as compared to patients with the CT or TT genotype. However, all studies evaluated also included other treatments (platinum drugs or radiotherapy) which may interact with this variant. Other genetic and clinical factors may also influence response to treatment.

The description of **rs1042522**
Patients with the CC genotype may have 1) decreased but not absent risk for toxicity 2) increased survival when treated with antineoplastic agents as compared to patients with the CG or GG genotype. Other genetic and clinical factors may also influence a patients response to antineoplastic agents.

The description of **rs2070744**
Patients with the TT genotype and breast cancer who are not treated with a adjuvant cyclophophamide-based regimens may have shorter disease-free survival as compared to patients with the CC genotype. Other genetic and clinical factors may also influence disease-free survival.

The description of **rs1801131**
Patients with the GT genotype may have decreased risk of Drug Toxicity when treated with fluorouracil and radiotherapy in people with Rectal Neoplasms as compared to patients with genotype TT. Other genetic and clinical factors may also influence a patients risk of toxicity to fluorouracil.

The description of **rs1801133**
Patients with the AG genotype may have increased risk of Drug Toxicity in cancer patients treated with fluorouracil-based therapy as compared to patients with the GG genotype. Other genetic and clinical factors may also influence a patients risk of toxicity to fluorouracil.

The description of **rs1801265**
Patients with the AA genotype may have decreased likelihood of middle-severe nausea and vomiting in Asian cancer patients treated with fluorouracil as as compared to patients with genotype AG or GG. Other genetic and clinical factors may also influence a patients risk for fluorouracil-related toxicity.

The description of **rs9561778**
Patients with the GT genotype may have an increased risk of ADR when treated with CAF (cyclophosphamide, doxorubicin and fluorouracil) as compared to patients with the GG genotype. Other genetic and clinical factors may also influence a patients risk for ADRs.

Gefitinib

Gefitinib (originally coded ZD1839) is a drug used in the treatment of certain types of cancer. Acting in a similar manner to erlotinib (marketed as Tarceva), gefitinib selectively targets the mutant proteins in malignant cells.

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs712829	★★	EGFR	GT	increased	NA	NA

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs712829**

Patients with the GT genotype who are treated with gefitinib may be more likely to respond compared to such a patient with genotype GG. Other genetic and clinical factors may also influence a patients response.

Gemcitabine

Gemcitabine is a nucleoside analog used as chemotherapy. It is marketed as Gemzar? by Eli Lilly and Company. As with fluorouracil and other analogues of pyrimidines, the drug replaces one of the building blocks of nucleic acids, in this case cytidine, during DNA replication.

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs9937	★	RRM1	AG	NA	NA	decreased

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs9937**

Patients with the AG genotype and the A allele of rs1042858 with advanced breast cancer who are treated with gemcitabine 1) may be less likely to experience toxicity such as neutropenia 2) may have a tendency, though not a statistically significant one, towards poorer progression-free survival as compared to patients with the AA genotype. Other genetic and clinical factors may also influence a patients risk of toxicity and response to gemcitabine.

Mercaptopurine

An antimetabolite antineoplastic agent with immunosuppressant properties. It interferes with nucleic acid synthesis by inhibiting purine metabolism and is used, usually in combination with other drugs, in the treatment of or in remission maintenance programs for leukemia. [PubChem]

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs1801133	⭐⭐	MTHFR	AG	NA	NA	NA

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs1801133**

Patients with the AG genotype may have increased likelihood of treatment interruptions when treated with mercaptopurine in people with Precursor Cell Lymphoblastic Leukemia-Lymphoma as compared to patients with genotype GG. However, contradictory finding has been reported. Other genetic and clinical factors may also influence a patients risk for toxicity to mercaptopurine.

Methotrexate

An antineoplastic antimetabolite with immunosuppressant properties.

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs2070744	★★	NOS3	TT	NA	NA	NA
rs1801131	★★	MTHFR	GT	increased	NA	NA
rs1801131	★★	MTHFR	GT	NA	NA	NA
rs1801133	★★	MTHFR	AG	NA	NA	increased
rs1801133	★★	MTHFR	AG	NA	NA	increased
rs1801133	★★	MTHFR	AG	decreased	NA	NA
rs1801133	★★	MTHFR	AG	decreased	decreased	increased
rs1801133	★★	MTHFR	AG	NA	NA	decreased
rs4846051	★★	MTHFR	AA	NA	NA	decreased
rs1544105	★★	FPGS	TT	decreased	NA	NA
rs2372536	★★	ATIC	CG	decreased	NA	NA
rs2298383	★★	ADORA2A	CT	NA	NA	NA
rs246240	★★	ABCC1	AG	NA	NA	decreased
rs35592	★★	ABCC1	CT	decreased	NA	NA
rs4888024	★★	Not available	GG	NA	NA	NA

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs2070744**

Patients with the TT genotype and breast cancer who are not treated with a adjuvant cyclophophamide-based regimens may have shorter disease-free survival as compared to patients with the CC genotype. Other genetic and clinical factors may also influence disease-free survival.

The description of **rs1801131**

Patients with the GT genotype and Rheumatoid Arthritis who are treated with methotrexate may have an increased likelihood of clinical response but may have a decreased response base on Disease Activity Score in 44

joints improvement at 6 months as compared to patients with the TT genotype. This association has been contradicted in other studies including a larger meta-analysis that found no association of this variant with methotrexate efficacy. Other genetic and clinical factors may also influence a patients response to methotrexate treatment.

The description of **rs1801131**
Patients with the GT genotype and Rheumatoid Arthritis who are treated with methotrexate may have a decreased, but not absent, risk of drug toxicity and adverse events as compared to patients with the GG genotype or may have an increased risk of drug toxicity and adverse events as compared to patients with the TT genotype. This association has been contradicted in some studies. Other genetic and clinical factors may also influence a patients risk for adverse events with methotrexate treatment.

The description of **rs1801133**
Patients with the AG genotype and Rheumatoid Arthritis may be more at risk of alopecia when treated with methotrexate as compared to patients with the GG genotype. Other genetic and clinical factors may also influence a patients risk of alopecia.

The description of **rs1801133**
Patients with the AG genotype and Arthritis who are treated with methotrexate may have an increased risk of adverse events and toxicity as compared to patients with the GG genotype, or may have a decreased, but not absent, risk of adverse events as compared to patients with the AA genotype (though this association has not been found in all studies). There does not seem to be an association between this genotype and response to methotrexate treatment. Other genetic and clinical factors may also influence a patients risk for adverse events with methotrexate treatment.

The description of **rs1801133**
Patients with the AG genotype with non-hodgkin lymphoma who are treated with methotrexate may be less likely to have event free survival at 5 years as compared to patients with the GG genotype. This genotype was not associated with treatment outcome in pediatric patients with non-hodgkin lymphoma as compared to the GG genotype. Other genetic and clinical factors may also influence a patients response to methotrexate treatment.

The description of **rs1801133**
Patients with the AG genotype and Leukemia who are treated with methotrexate: 1) may have poorer response to treatment 2) may be at increased risk of toxicity 3) may require a lower dose of methotrexate as compared to patients with the GG genotype or may be at decreased risk of toxicity as compared to patients with the AA genotype. This association has been contradicted or not found in several studies. Other genetic and clinical factors may also influence a patients risk for toxicity and response with methotrexate treatment.

The description of **rs1801133**
Patients with the AG genotype and leukemia who undergo hematopoietic cell transplant and are treated with methotrexate may have a decreased risk of Graft vs Host disease as compared to patients with the GG genotype. Other genetic and clinical factors may also influence a patients risk Graft vs Host disease and efficacy of methotrexate treatment.

The description of **rs4846051**
Patients with the AA genotype with Rheumatoid Arthritis who are treated with methotrexate may have a lower drug toxicity score as compared to patients with the GG genotype. Other genetic and clinical factors may also influence a patients level of methotrexate induced toxicity.

The description of **rs1544105**
Patients with the TT genotype and rheumatoid arthritis may be less likely to respond to methotrexate as compared

to patients with the CC genotype. Other genetic and clinical factors may also influence a patients response to methotrexate.

The description of **rs2372536**
Patients with the CG genotype and rheumatoid arthritis who are treated with methotrexate may be less likely to have symptom improvement as compared to patients with the GG genotype.

The description of **rs2298383**
Patients with the CT genotype and Rheumatoid Arthritis who are treated with methotrexate may have a decreased, but not absent, risk for adverse events as compared to patients with the TT genotype or may have an increased risk for adverse events as compared to patients with the CC genotype. Other genetic and clinical factors may also influence a patients risk for adverse events when treated with methotrexate.

The description of **rs246240**
Patients with the AG genotype and psoriasis who are treated with methotrexate may have a decreased, but not absent, risk for toxicity as compared to patients with the AA genotype. Other genetic and clinical factors may also influence a patients risk for toxicity to methotrexate.

The description of **rs35592**
Patients with the CT genotype and psoriasis who are treated with methotrexate may be less likely to have improvement in psoriasis area and severity as compared to patients with the TT genotype. Other genetic and clinical factors may also influence a patients response to methotrexate.

The description of **rs4888024**
Patients with the GG genotype and childhood acute lymphoblastic leukemia who are treated with methotrexate may have an increased risk of end-of-induction minimal residual disease (MRD) as compared to patients with the AA genotype.

Oxaliplatin

Oxaliplatin is a platinum-based chemotherapy drug in the same family as cisplatin and carboplatin. It is typically administered in combination with fluorouracil and leucovorin in a combination known as Folfox for the treatment of colorectal cancer. Compared to cisplatin the two amine groups are replaced by cyclohexyldiamine for improved antitumour activity.

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs25487	★★½	XRCC1	CC	increased	NA	NA
rs11615	★★½	ERCC1	AG	NA	NA	increased

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs25487**

Patients with the CC genotype may have 1) increased survival and 2) increased risk of severe neutropenia when treated with platinum-based regimens as compared to patients with the CT or TT genotype. Other genetic and clinical factors may also influence response to platinum-based regimens.

The description of **rs11615**

Patients with the AG genotype may have 1) increased risk for toxicity 2) decreased survival when treated with platinum compounds as compared to patients with the GG genotype. Other genetic and clinical factors may also influence a patients response to platinum compounds.

Paclitaxel

A cyclodecane isolated from the bark of the Pacific yew tree, TAXUS brevifolia. It stabilizes microtubules in their polymerized form leading to cell death. [PubChem] ABI-007 (Abraxane) is the latest attempt to improve upon paclitaxel, one of the leading chemotherapy treatments.

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs1042522	★★½	TP53	CC	NA	NA	decreased
rs9981861	★★	DSCAM	CT	increased	NA	NA
rs1056836	★★	CYP1B1	GG	increased	NA	NA

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs1042522**

Patients with the CC genotype may have 1) decreased but not absent risk for toxicity 2) increased survival when treated with antineoplastic agents as compared to patients with the CG or GG genotype. Other genetic and clinical factors may also influence a patients response to antineoplastic agents.

The description of **rs9981861**

Patients with the CT genotype may have increased survival when treated with carboplatin and paclitaxel as compared to patients with the TT genotypes. Other genetic and clinical factors may also influence survival.

The description of **rs1056836**

Patients with the GG genotype who are treated with taxanes may have longer disease-free progression as compared to patients with the CC genotype. Other genetic and clinical factors may also influence a patients response.

Spironolactone

A potassium sparing diuretic that acts by antagonism of aldosterone in the distal renal tubules. It is used mainly in the treatment of refractory edema in patients with congestive heart failure, nephrotic syndrome, or hepatic cirrhosis.

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs4961	★★½	ADD1	GT	decreased	NA	NA
rs4343	★★	ACE	AA	increased	NA	NA

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs4961**

Patients with the GT genotype and Liver Cirrhosis who are treated with furosemide and spironolactone may be less likely to respond to diuretic treatment as compared to patients with the GG genotype. Other genetic and clinical factors may also influence a patients response to diuretics.

The description of **rs4343**

Patients with the AA genotype is associated with improvement in left ventricular ejection fraction, end-systolic and end-diastolic volume in people with chronic heart failure treated with spironolactone as compared to patients with the GG genotype. Other genetic and clinical factors may also influence a patients response.

Sirolimus

A macrolide compound obtained from Streptomyces hygroscopicus that acts by selectively blocking the transcriptional activation of cytokines thereby inhibiting cytokine production.

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs776746	★★★	CYP3A5	CT	NA	increased	NA
rs2740574	★★★	CYP3A	TT	NA	decreased	NA

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs776746**

Patients with the CT genotype (*1/*3) and who are recipients of transplants may have increased metabolism of sirolimus and require a higher dose as compared to patients with the CC genotype. Other genetic and clinical factors may also influence a patients sirolimus dose requirements.

The description of **rs2740574**

Patients with the TT genotype may require a decreased dose of tacrolimus or sirolimus as compared to patients with the CT or CC genotypes. Other genetic and clinical factors may also influence a patients dose requirements.

Thalidomide

A piperidinyl isoindole originally introduced as a non-barbiturate hypnotic, but withdrawn from the market due to teratogenic effects. It has been reintroduced and used for a number of immunological and inflammatory disorders. Thalidomide displays immunosuppresive and anti-angiogenic activity. It inhibits release of tumor necrosis factor-alpha from monocytes, and modulates other cytokine action.

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs2301159	★★	SLC10A2	AA	NA	NA	increased
rs3734254	★★	PPARD	CT	increased	NA	NA
rs4646487	★★	CYP4B1	CT	NA	NA	increased
rs12418	★★	CHST3	AG	increased	NA	NA
rs1871450	★★	CHST3	AG	increased	NA	NA
rs4148950	★★	CHST3	AG	increased	NA	increased

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs2301159**
Patients with the AA genotype may have an increased risk of toxicity with docetaxel and thalidomide as compared to patients with the GG genotype. Other genetic and clinical factors may also influence treatment response.

The description of **rs3734254**
Patients with the CT genotype may have an increased chance of response to treatment with docetaxel and thalidomide as compared to patients with the CC genotype. Other genetic and clinical factors may also influence treatment response.

The description of **rs4646487**
Patients with the CT genotype may have an increased risk of toxicity with docetaxel and thalidomide as compared to patients with the CC genotypes. Other genetic and clinical factors may also influence treatment response.

The description of **rs12418**
Patients with the AG genotype may have an increased chance of response to treatment with docetaxel and thalidomide as compared to patients with the GG genotype. Other genetic and clinical factors may also influence treatment response.

The description of **rs1871450**
Patients with the AA genotype may have an 1) increased chance of response to treatment with docetaxel and thalidomide 2) increased risk of toxicity as compared to patients with the GG genotype. Other genetic and clinical factors may also influence treatment response.

The description of **rs4148950**
Patients with the AG genotype may have an 1) increased chance of response to treatment with docetaxel and

thalidomide 2) increased risk of toxicity as compared to patients with the GG genotype. Other genetic and clinical factors may also influence treatment response.

Phenprocoumon

Coumarin derivative that acts as a long acting oral anticoagulant. [PubChem]

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs2108622	★★★½	CYP4F2	CT	NA	increased	NA

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs2108622**

Patients with the CT genotype who are taking an oral anticoagulant may require a higher dose as compared to patients with the CC genotype. Other genetic and clinical factors may also influence a patients required dose.

Warfarin

Warfarin is an anticoagulant drug normally used to prevent blood clot formation as well as migration. Although originally marketed as a pesticide (d-Con, Rodex, among others), Warfarin has since become the most frequently prescribed oral coagulant in North America. Warfarin has several properties that should be noted when used medicinally, including its ability to cross the placental barrier during pregnancy which can result in fetal bleeding, spontaneous abortion, preterm birth, stillbirth, and neonatal death. Additional adverse effects such as necrosis, purple toe syndrome, osteoporosis, valve and artery calcification, and drug interactions have also been documented with warfarin use. Warfarin does not actually affect blood viscosity, rather, it inhibits vitamin-k dependent synthesis of biologically active forms of various clotting factors in addition to several regulatory factors.

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs9934438	★★★½	VKORC1	AA	NA	decreased	NA
rs10871454	★★	STX4	TT	NA	decreased	NA
rs8050894	★★	PRSS53	GG	NA	decreased	NA
rs12714145	★★	GGCX	TT	NA	increased	NA
rs2292566	★★	EPHX1	AG	NA	decreased	NA
rs2108622	★★★½	CYP4F2	CT	NA	increased	NA

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs9934438**
Patients with the AA genotype who are treated with warfarin or acenocoumarol may require a lower dose as compared to patients with the AG or GG genotype. Other genetic and clinical factors may also influence a patients required dose of warfarin or acenocoumarol.

The description of **rs10871454**
Patients with the TT genotype who are treated with warfarin may require the lowest dose as compared to patients with the CT or CC genotype.

The description of **rs8050894**
Patients with the GG genotype who are treated with warfarin may require the lowest dose as compared to patients with the CG or CC genotype.

The description of **rs12714145**
Genotype TT may be associated with increased dose of warfarin as compared to genotype GG. However, contradictory findings (no association) have been reported. Other genetic and clinical factors may influence a patients dose of warfain.

The description of **rs2292566**
Patients with the AG genotype may require a lower dose of warfarin than patients with the GG genotype however there have been conflicting results regarding the association of this SNP with warfarin dose. Other genetic and

clinical factors may also influence warfarin dose requirements.

The description of **rs2108622**
Patients with the CT genotype who are taking an oral anticoagulant may require a higher dose as compared to patients with the CC genotype. Other genetic and clinical factors may also influence a patients required dose.

Antihypertensives and diuretics in combination

Antihypertensives are a class of drugs that are used to treat hypertension (high blood pressure)

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs2070744	★★	NOS3	TT	NA	NA	NA
rs2070744	★★	NOS3	TT	NA	NA	NA

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs2070744**

Patients with the TT genotype who are treated with antihypertensive drugs may have a decreased, but not absent, risk for resistance as compared to patients with the CC genotype. Other genetic and clinical factors may also influence a patients risk for resistance.

The description of **rs2070744**

Patients with the TT genotype may have a decreased but not absent risk of resistant hypertension when treated with antihypertensive drugs including diuretics as compared to patients with the CC genotype. Other genetic and clinical factors may also influence a patients response to antihypertensives.

Antihypertensives

Antihypertensives are a class of drugs that are used to treat hypertension (high blood pressure)

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs2070744	★★	NOS3	TT	NA	NA	NA

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs2070744**

Patients with the TT genotype may have a decreased but not absent risk of resistant hypertension when treated with antihypertensive drugs including diuretics as compared to patients with the CC genotype. Other genetic and clinical factors may also influence a patients response to antihypertensives.

Atenolol

A cardioselective beta-adrenergic blocker possessing properties and potency similar to propranolol, but without a negative inotropic effect. [DrugBank]

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs1801253	★★	ADRB1	CG	decreased	NA	NA
rs1801253	★★	ADRB1	CG	decreased	NA	increased

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs1801253**

Patients with the CG genotype 1) may have a decreased response to Beta Blocking Agents (this association has not been found in all studies and has been contradicted) 2) may have an increased likelihood for requiring increases in other heart failure medication (for example diuretics), as compared to patients with the CC genotype. Other genetic and clinical factors may also influence a patients response to Beta Blocking Agents.

The description of **rs1801253**

Patients with the CG genotype 1) may have a decreased response to Beta Blocking Agents (this association has not been found in all studies and has been contradicted) 2) may have an increased likelihood for requiring increases in other heart failure medication (for example diuretics), as compared to patients with the CC genotype. Other genetic and clinical factors may also influence a patients response to Beta Blocking Agents.

Atorvastatin

Atorvastatin (Lipitor) is a member of the drug class known as statins. It is used for lowering cholesterol. Atorvastatin is a competitive inhibitor of hydroxymethylglutaryl-coenzyme A (HMG-CoA) reductase, the rate-determining enzyme in cholesterol biosynthesis via the mevalonate pathway. HMG-CoA reductase catalyzes the conversion of HMG-CoA to mevalonate. Atorvastatin acts primarily in the liver. Decreased hepatic cholesterol levels increases hepatic uptake of cholesterol and reduces plasma cholesterol levels.

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs2276307	☆☆	HTR3B	AG	NA	NA	increased

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs2276307**

Patients with the AG genotype and Hypercholesterolemia may have an increased risk of statin-related myalgia as compared to patients with the AA genotype, or may have a decreased, but not absent, risk statin-related myalgia as compared to patients with the GG genotype. Other genetic and clinical factors may also influence a patients risk for myalgia.

Beta blocking agents

Beta blockers are a class of drugs that target the beta receptor. Beta receptors are found on cells of the heart muscles, smooth muscles, airways, arteries, kidneys, and other tissues that are part of the sympathetic nervous system and lead to stress responses, especially when they are stimulated by epinephrine (adrenaline).

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs1801253	★★	ADRB1	CG	decreased	NA	NA
rs1801253	★★	ADRB1	CG	decreased	NA	increased

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs1801253**

Patients with the CG genotype 1) may have a decreased response to Beta Blocking Agents (this association has not been found in all studies and has been contradicted) 2) may have an increased likelihood for requiring increases in other heart failure medication (for example diuretics), as compared to patients with the CC genotype. Other genetic and clinical factors may also influence a patients response to Beta Blocking Agents.

The description of **rs1801253**

Patients with the CG genotype 1) may have a decreased response to Beta Blocking Agents (this association has not been found in all studies and has been contradicted) 2) may have an increased likelihood for requiring increases in other heart failure medication (for example diuretics), as compared to patients with the CC genotype. Other genetic and clinical factors may also influence a patients response to Beta Blocking Agents.

Carvedilol

Carvedilol is a non-selective beta blocker indicated in the treatment of mild to moderate congestive heart failure (CHF). It blocks beta-1 and beta-2 adrenergic receptors as well as the alpha-1 adrenergic receptors.

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs1042714	★★	ADRB2	CC	decreased	NA	NA
rs1801253	★★	ADRB1	CG	decreased	NA	NA
rs1801253	★★	ADRB1	CG	decreased	NA	increased

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs1042714**

Patients with the CC genotype and heart failure may be less likely to have improved left ventricular ejection fraction after carvedilol treatment as compared to patients with the CG or GG genotype. Other genetic and clinical factors may also influence a patients chance of response.

The description of **rs1801253**

Patients with the CG genotype 1) may have a decreased response to Beta Blocking Agents (this association has not been found in all studies and has been contradicted) 2) may have an increased likelihood for requiring increases in other heart failure medication (for example diuretics), as compared to patients with the CC genotype. Other genetic and clinical factors may also influence a patients response to Beta Blocking Agents.

The description of **rs1801253**

Patients with the CG genotype 1) may have a decreased response to Beta Blocking Agents (this association has not been found in all studies and has been contradicted) 2) may have an increased likelihood for requiring increases in other heart failure medication (for example diuretics), as compared to patients with the CC genotype. Other genetic and clinical factors may also influence a patients response to Beta Blocking Agents.

Cerivastatin

On August 8, 2001 the U.S. Food and Drug Administration (FDA) announced that Bayer Pharmaceutical Division voluntarily withdrew Baycol from the U.S. market, due to reports of fatal Rhabdomyolysis, a severe adverse reaction from this cholesterol-lowering (lipid-lowering) product. It has also been withdrawn from the Canadian market.

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs2819742	★★	RYR2	GG	NA	NA	increased

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs2819742**

Patients with the GG genotype may have an increased risk of cerivastatin-associated rhabdomyolysis as compared to patients with the AA or AG genotype. Other genetic and clinical factors may also influence a patients risk of toxicity.

Diuretics

A diuretic is any substance that promotes the production of urine. This includes forced diuresis. There are several categories of diuretics. All diuretics increase the excretion of water from bodies, although each class does so in a distinct way. Alternatively, an antidiuretic such as vasopressin is an agent or drug which reduces the excretion of water in urine.

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs2070744	★★	NOS3	TT	NA	NA	NA
rs4961	★★	ADD1	GT	NA	NA	NA

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs2070744**

Patients with the TT genotype may have a decreased but not absent risk of resistant hypertension when treated with antihypertensive drugs including diuretics as compared to patients with the CC genotype. Other genetic and clinical factors may also influence a patients response to antihypertensives.

The description of **rs4961**

Patients with the GT genotype and Hypertension who are treated with diuretics may have a decreased likelihood of Myocardial Infarction as compared to patients with the GG genotype. However, this association was not found in a large cohort of patients. Other genetic and clinical factors may also influence a patients response to diuretics.

Furosemide

A benzoic-sulfonamide-furan. It is a diuretic with fast onset and short duration that is used for edema and chronic renal insufficiency. [PubChem]

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs4961		ADD1	GT	decreased	NA	NA

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs4961**

Patients with the GT genotype and Liver Cirrhosis who are treated with furosemide and spironolactone may be less likely to respond to diuretic treatment as compared to patients with the GG genotype. Other genetic and clinical factors may also influence a patients response to diuretics.

Hydrochlorothiazide

A thiazide diuretic often considered the prototypical member of this class. It reduces the reabsorption of electrolytes from the renal tubules. This results in increased excretion of water and electrolytes, including sodium, potassium, chloride, and magnesium.

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs4961	★★	ADD1	GT	increased	NA	NA

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs4961**

Patients with the GT genotype may have a better response to hydrochlorothiazide treatment as compared to patients with the GG genotype. This association has not been found in all studies. Other genetic and clinical factors may also influence a patients response to hydrochlorothiazide treatment.

Metoprolol

Metoprolol is a cardioselective beta1-adrenergic blocking agent used for acute myocardial infarction (MI), heart failure, angina pectoris and mild to moderate hypertension.

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs1801253	★★	ADRB1	CG	decreased	NA	NA
rs1801253	★★	ADRB1	CG	decreased	NA	NA
rs1801253	★★	ADRB1	CG	decreased	NA	increased

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs1801253**
Patients with the CG genotype 1) may have a decreased response to Beta Blocking Agents (this association has not been found in all studies and has been contradicted) 2) may have an increased likelihood for requiring increases in other heart failure medication (for example diuretics), as compared to patients with the CC genotype. Other genetic and clinical factors may also influence a patients response to Beta Blocking Agents.

The description of **rs1801253**
Patients with the CG genotype 1) may have a decreased response to Beta Blocking Agents (this association has not been found in all studies and has been contradicted) 2) may have an increased likelihood for requiring increases in other heart failure medication (for example diuretics), as compared to patients with the CC genotype. Other genetic and clinical factors may also influence a patients response to Beta Blocking Agents.

The description of **rs1801253**
Patients with the CG genotype 1) may have a decreased response to Beta Blocking Agents (this association has not been found in all studies and has been contradicted) 2) may have an increased likelihood for requiring increases in other heart failure medication (for example diuretics), as compared to patients with the CC genotype. Other genetic and clinical factors may also influence a patients response to Beta Blocking Agents.

Pravastatin

Pravastatin is a cholesterol-lowering agent that belongs to a class of medications known as statins. It was derived from microbial transformation of mevastatin, the first statin discovered.

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs2306283	★★	SLCO1B1	GG	decreased	NA	NA
rs20455	★★½	KIF6	GG	NA	NA	increased
rs2276307	★★	HTR3B	AG	NA	NA	increased

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs2306283**

Patients with the GG genotype may have decreased plasma AUC of pravastatin as compared to patients with the AA genotype.

The description of **rs20455**

Patients with the GG genotype may have an increased risk for adverse cardiovascular events (myocardial infarction and coronary heart diseases) as compared to patients with the AA genotype. Pravastatin treatment substantially reduced that risk. Other genetic and clinical factors may also influence a patients risk for adverse cardiovascular events.

The description of **rs2276307**

Patients with the AG genotype and Hypercholesterolemia may have an increased risk of statin-related myalgia as compared to patients with the AA genotype, or may have a decreased, but not absent, risk statin-related myalgia as compared to patients with the GG genotype. Other genetic and clinical factors may also influence a patients risk for myalgia.

Simvastatin

Simvastatin is a lipid-lowering agent that is derived synthetically from the fermentation of Aspergillus terreus. It is a potent competitive inhibitor of 3-hydroxy-3-methylglutaryl coenzyme A reductase (hydroxymethylglutaryl COA reductases), which is the rate-limiting enzyme in cholesterol biosynthesis.

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs2276307	★★	HTR3B	AG	NA	NA	increased

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs2276307**

Patients with the AG genotype and Hypercholesterolemia may have an increased risk of statin-related myalgia as compared to patients with the AA genotype, or may have a decreased, but not absent, risk statin-related myalgia as compared to patients with the GG genotype. Other genetic and clinical factors may also influence a patients risk for myalgia.

Verapamil

A calcium channel blocker that is a class IV anti-arrhythmia agent

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs10494366	★★	NOS1AP	TT	NA	NA	decreased
rs10918594	★	NOS1AP	CG	NA	NA	increased

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs10494366**

Patients with the TT genotype may have a decreased, but not absent, risk for QTc prolongation during verapamil treatment as compared to patients with the GG genotype. Other genetic and clinical factors may also influence a patients QTc prolongation risk.

The description of **rs10918594**

While patients with the GG genotype may have an increased risk for QTc prolongation during verapamil treatment as compared to patients with the CC genotype, it was not shown conclusively if heterzygous (GC) individuals are affected. Other genetic and clinical factors may also influence a patients QTc prolongation risk.

Antihypertensives

Antihypertensives are a class of drugs that are used to treat hypertension (high blood pressure)

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs2070744	★★	NOS3	TT	NA	NA	NA

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs2070744**

Patients with the TT genotype may have a decreased but not absent risk of resistant hypertension when treated with antihypertensive drugs including diuretics as compared to patients with the CC genotype. Other genetic and clinical factors may also influence a patients response to antihypertensives.

Atenolol

A cardioselective beta-adrenergic blocker possessing properties and potency similar to propranolol, but without a negative inotropic effect. [DrugBank]

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs1801253	★★	ADRB1	CG	decreased	NA	NA
rs1801253	★★	ADRB1	CG	decreased	NA	increased

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs1801253**

Patients with the CG genotype 1) may have a decreased response to Beta Blocking Agents (this association has not been found in all studies and has been contradicted) 2) may have an increased likelihood for requiring increases in other heart failure medication (for example diuretics), as compared to patients with the CC genotype. Other genetic and clinical factors may also influence a patients response to Beta Blocking Agents.

The description of **rs1801253**

Patients with the CG genotype 1) may have a decreased response to Beta Blocking Agents (this association has not been found in all studies and has been contradicted) 2) may have an increased likelihood for requiring increases in other heart failure medication (for example diuretics), as compared to patients with the CC genotype. Other genetic and clinical factors may also influence a patients response to Beta Blocking Agents.

Beta blocking agents

Beta blockers are a class of drugs that target the beta receptor. Beta receptors are found on cells of the heart muscles, smooth muscles, airways, arteries, kidneys, and other tissues that are part of the sympathetic nervous system and lead to stress responses, especially when they are stimulated by epinephrine (adrenaline).

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs1801253	★★	ADRB1	CG	decreased	NA	NA
rs1801253	★★	ADRB1	CG	decreased	NA	increased

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs1801253**

Patients with the CG genotype 1) may have a decreased response to Beta Blocking Agents (this association has not been found in all studies and has been contradicted) 2) may have an increased likelihood for requiring increases in other heart failure medication (for example diuretics), as compared to patients with the CC genotype. Other genetic and clinical factors may also influence a patients response to Beta Blocking Agents.

The description of **rs1801253**

Patients with the CG genotype 1) may have a decreased response to Beta Blocking Agents (this association has not been found in all studies and has been contradicted) 2) may have an increased likelihood for requiring increases in other heart failure medication (for example diuretics), as compared to patients with the CC genotype. Other genetic and clinical factors may also influence a patients response to Beta Blocking Agents.

Carvedilol

Carvedilol is a non-selective beta blocker indicated in the treatment of mild to moderate congestive heart failure (CHF). It blocks beta-1 and beta-2 adrenergic receptors as well as the alpha-1 adrenergic receptors.

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs1042714	★★	ADRB2	CC	decreased	NA	NA
rs1801253	★★	ADRB1	CG	decreased	NA	NA
rs1801253	★★	ADRB1	CG	decreased	NA	increased

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs1042714**

Patients with the CC genotype and heart failure may be less likely to have improved left ventricular ejection fraction after carvedilol treatment as compared to patients with the CG or GG genotype. Other genetic and clinical factors may also influence a patients chance of response.

The description of **rs1801253**

Patients with the CG genotype 1) may have a decreased response to Beta Blocking Agents (this association has not been found in all studies and has been contradicted) 2) may have an increased likelihood for requiring increases in other heart failure medication (for example diuretics), as compared to patients with the CC genotype. Other genetic and clinical factors may also influence a patients response to Beta Blocking Agents.

The description of **rs1801253**

Patients with the CG genotype 1) may have a decreased response to Beta Blocking Agents (this association has not been found in all studies and has been contradicted) 2) may have an increased likelihood for requiring increases in other heart failure medication (for example diuretics), as compared to patients with the CC genotype. Other genetic and clinical factors may also influence a patients response to Beta Blocking Agents.

Metoprolol

Metoprolol is a cardioselective beta1-adrenergic blocking agent used for acute myocardial infarction (MI), heart failure, angina pectoris and mild to moderate hypertension.

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs1801253	★★	ADRB1	CG	decreased	NA	NA
rs1801253	★★	ADRB1	CG	decreased	NA	NA
rs1801253	★★	ADRB1	CG	decreased	NA	increased

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs1801253**

Patients with the CG genotype 1) may have a decreased response to Beta Blocking Agents (this association has not been found in all studies and has been contradicted) 2) may have an increased likelihood for requiring increases in other heart failure medication (for example diuretics), as compared to patients with the CC genotype. Other genetic and clinical factors may also influence a patients response to Beta Blocking Agents.

The description of **rs1801253**

Patients with the CG genotype 1) may have a decreased response to Beta Blocking Agents (this association has not been found in all studies and has been contradicted) 2) may have an increased likelihood for requiring increases in other heart failure medication (for example diuretics), as compared to patients with the CC genotype. Other genetic and clinical factors may also influence a patients response to Beta Blocking Agents.

The description of **rs1801253**

Patients with the CG genotype 1) may have a decreased response to Beta Blocking Agents (this association has not been found in all studies and has been contradicted) 2) may have an increased likelihood for requiring increases in other heart failure medication (for example diuretics), as compared to patients with the CC genotype. Other genetic and clinical factors may also influence a patients response to Beta Blocking Agents.

Verapamil

A calcium channel blocker that is a class IV anti-arrhythmia agent

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs10494366	★★	NOS1AP	TT	NA	NA	decreased
rs10918594	★	NOS1AP	CG	NA	NA	increased

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs10494366**

Patients with the TT genotype may have a decreased, but not absent, risk for QTc prolongation during verapamil treatment as compared to patients with the GG genotype. Other genetic and clinical factors may also influence a patients QTc prolongation risk.

The description of **rs10918594**

While patients with the GG genotype may have an increased risk for QTc prolongation during verapamil treatment as compared to patients with the CC genotype, it was not shown conclusively if heterzygous (GC) individuals are affected. Other genetic and clinical factors may also influence a patients QTc prolongation risk.

Diuretics

A diuretic is any substance that promotes the production of urine. This includes forced diuresis. There are several categories of diuretics. All diuretics increase the excretion of water from bodies, although each class does so in a distinct way. Alternatively, an antidiuretic such as vasopressin is an agent or drug which reduces the excretion of water in urine.

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs2070744	★★	NOS3	TT	NA	NA	NA
rs4961	★★	ADD1	GT	NA	NA	NA

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs2070744**

Patients with the TT genotype may have a decreased but not absent risk of resistant hypertension when treated with antihypertensive drugs including diuretics as compared to patients with the CC genotype. Other genetic and clinical factors may also influence a patients response to antihypertensives.

The description of **rs4961**

Patients with the GT genotype and Hypertension who are treated with diuretics may have a decreased likelihood of Myocardial Infarction as compared to patients with the GG genotype. However, this association was not found in a large cohort of patients. Other genetic and clinical factors may also influence a patients response to diuretics.

Furosemide

A benzoic-sulfonamide-furan. It is a diuretic with fast onset and short duration that is used for edema and chronic renal insufficiency. [PubChem]

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs4961		ADD1	GT	decreased	NA	NA

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs4961**

Patients with the GT genotype and Liver Cirrhosis who are treated with furosemide and spironolactone may be less likely to respond to diuretic treatment as compared to patients with the GG genotype. Other genetic and clinical factors may also influence a patients response to diuretics.

Hydrochlorothiazide

A thiazide diuretic often considered the prototypical member of this class. It reduces the reabsorption of electrolytes from the renal tubules. This results in increased excretion of water and electrolytes, including sodium, potassium, chloride, and magnesium.

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs4961	★★	ADD1	GT	increased	NA	NA

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs4961**

Patients with the GT genotype may have a better response to hydrochlorothiazide treatment as compared to patients with the GG genotype. This association has not been found in all studies. Other genetic and clinical factors may also influence a patients response to hydrochlorothiazide treatment.

Atorvastatin

Atorvastatin (Lipitor) is a member of the drug class known as statins. It is used for lowering cholesterol. Atorvastatin is a competitive inhibitor of hydroxymethylglutaryl-coenzyme A (HMG-CoA) reductase, the rate-determining enzyme in cholesterol biosynthesis via the mevalonate pathway. HMG-CoA reductase catalyzes the conversion of HMG-CoA to mevalonate. Atorvastatin acts primarily in the liver. Decreased hepatic cholesterol levels increases hepatic uptake of cholesterol and reduces plasma cholesterol levels.

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs2276307	☆☆	HTR3B	AG	NA	NA	increased

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs2276307**

Patients with the AG genotype and Hypercholesterolemia may have an increased risk of statin-related myalgia as compared to patients with the AA genotype, or may have a decreased, but not absent, risk statin-related myalgia as compared to patients with the GG genotype. Other genetic and clinical factors may also influence a patients risk for myalgia.

Cerivastatin

On August 8, 2001 the U.S. Food and Drug Administration (FDA) announced that Bayer Pharmaceutical Division voluntarily withdrew Baycol from the U.S. market, due to reports of fatal Rhabdomyolysis, a severe adverse reaction from this cholesterol-lowering (lipid-lowering) product. It has also been withdrawn from the Canadian market.

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs2819742	★★	RYR2	GG	NA	NA	increased

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs2819742**

Patients with the GG genotype may have an increased risk of cerivastatin-associated rhabdomyolysis as compared to patients with the AA or AG genotype. Other genetic and clinical factors may also influence a patients risk of toxicity.

Pravastatin

Pravastatin is a cholesterol-lowering agent that belongs to a class of medications known as statins. It was derived from microbial transformation of mevastatin, the first statin discovered.

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs2306283	★★	SLCO1B1	GG	decreased	NA	NA
rs20455	★★½	KIF6	GG	NA	NA	increased
rs2276307	★★	HTR3B	AG	NA	NA	increased

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs2306283**

Patients with the GG genotype may have decreased plasma AUC of pravastatin as compared to patients with the AA genotype.

The description of **rs20455**

Patients with the GG genotype may have an increased risk for adverse cardiovascular events (myocardial infarction and coronary heart diseases) as compared to patients with the AA genotype. Pravastatin treatment substantially reduced that risk. Other genetic and clinical factors may also influence a patients risk for adverse cardiovascular events.

The description of **rs2276307**

Patients with the AG genotype and Hypercholesterolemia may have an increased risk of statin-related myalgia as compared to patients with the AA genotype, or may have a decreased, but not absent, risk statin-related myalgia as compared to patients with the GG genotype. Other genetic and clinical factors may also influence a patients risk for myalgia.

Simvastatin

Simvastatin is a lipid-lowering agent that is derived synthetically from the fermentation of Aspergillus terreus. It is a potent competitive inhibitor of 3-hydroxy-3-methylglutaryl coenzyme A reductase (hydroxymethylglutaryl COA reductases), which is the rate-limiting enzyme in cholesterol biosynthesis.

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs2276307	★★	HTR3B	AG	NA	NA	increased

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs2276307**

Patients with the AG genotype and Hypercholesterolemia may have an increased risk of statin-related myalgia as compared to patients with the AA genotype, or may have a decreased, but not absent, risk statin-related myalgia as compared to patients with the GG genotype. Other genetic and clinical factors may also influence a patients risk for myalgia.

Tacrolimus

Tacrolimus (also FK-506 or Fujimycin) is an immunosuppressive drug whose main use is after organ transplant to reduce the activity of the patient??s immune system and so the risk of organ rejection. It is also used in a topical preparation in the treatment of severe atopic dermatitis, severe refractory uveitis after bone marrow transplants, and the skin condition vitiligo.

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs776746	★★★½	CYP3A5	CT	NA	increased	NA
rs776746	★★★	CYP3A5	CT	NA	NA	increased
rs776746	★★	CYP3A5	CT	NA	NA	NA
rs776746	★★	CYP3A5	CT	NA	NA	decreased
rs2740574	★★★	CYP3A	TT	NA	decreased	NA

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs776746**
Patients with the CT genotype who are treated with tacrolimus may have increased clearance of tacrolimus resulting in decreased exposure, and may require a higher dose as compared to patients with the CC genotype. Other genetic and clinical factors may also influence a patients tacrolimus dose requirement.

The description of **rs776746**
Patients with the CT genotype (*1/*3) and are recipients of Kidney Transplant who are treated with tacrolimus may have an increased risk of nephrotoxicity as compared to patients with the CC genotype (*3/*3). Other genetic and clinical factors may also influence a patients risk for drug-induced nephrotoxicity.

The description of **rs776746**
Patients with the CT genotype (*1/*3) and recipients of Kidney Transplant who are treated with tacrolimus may have an increased risk of transplant rejection as compared to patients with the CC genotype (*3/*3). Other genetic and clinical factors may also influence a patients response to tacrolimus treatment and risk of transplant rejection.

The description of **rs776746**
Patients with the CT genotype and recipients of Kidney Transplant who are treated with tacrolimus may have a decreased, but not absent, risk of of developing hyperlipidemia as compared to patients with the CC genotype. Other genetic and clinical factors may also influence a patients risk for hyperlipidemia.

The description of **rs2740574**
Patients with the TT genotype may require a decreased dose of tacrolimus or sirolimus as compared to patients with the CT or CC genotypes. Other genetic and clinical factors may also influence a patients dose requirements.

Repaglinide

Repaglinide is an oral antihyperglycemic agent used for the treatment of non-insulin-dependent diabetes mellitus (NIDDM). It belongs to the meglitinide class of short-acting insulin secretagogues, which act by binding to |? cells of the pancreas to stimulate insulin release.

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs290487	★★	TCF7L2	TT	increased	NA	NA
rs5219	★★	ABCC8	CC	decreased	NA	NA

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs290487**

Patients with the TT genotype may have better response to repaglinide in people with Diabetes Mellitus, Type 2 as compared to patients with the CC or CT genotype. Other genetic and clinical factors may also influence a patients repsonse.

The description of **rs5219**

Patients with the CC genotype are less likely to respond to repaglinide than patients with the CT or TT genotype in T2DM patients. Other genetic and clinical factors may also influence a patients response.

Ibuprofen

Ibuprofen, a propionic acid derivative, is a prototypical nonsteroidal anti-inflammatory agent (NSAIA) with analgesic and antipyretic properties.

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs20417	★★	PTGS2	CG	increased	NA	NA

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs20417**

Patients with the CG genotype may have increased pain relief when treated with ibuprofen as compared to patients with the CC genotype. Other genetic and clinical factors may also influence a patients response to ibuprofen.

Sildenafil

Sildenfail is a vasoactive agent used to treat erectile dysfunction and reduce symptoms in patients with pulmonary arterial hypertension (PAH). Sildenafil elevates levels of the second messenger, cGMP, by inhibiting its breakdown via phosphodiesterase type 5 (PDE5).

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs4343	⭐⭐	ACE	AA	increased	NA	NA

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs4343**

Patients with the AA genotype and erectile dysfunction who are treated with sildenafil may have an increased chance of positive erectile response as compared to patients with the AG or GG genotype. Other genetic and clinical factors may also influence a patients response to sildenafil.

Alendronate

Alendronate is a nitrogen-containing, second generation bisphosphonate. Bisphosphonates were first used to treat Pageta?s disease in 1971. This class of medications is comprised of inorganic pyrophosphate analogues that contain non-hydrolyzable P-C-P bonds. Similar to other bisphosphonates, alendronate has a high affinity for bone mineral and is taken up during osteoclast resorption. Alendronate inhibits farnesyl pyrophosphate synthetase, one of the enzymes in the mevalonic acid pathway involved in producing isoprenoid compounds that are essential for post-translational modification of small guanosine triphosphate (GTP)-binding proteins, such as Rho, Ras and Rab. Inhibition of this process interferes with osteoclast function and survival. Alendronate is used for the treatment of osteoporosis and Pageta?s disease

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs2297480	★★½	FDPS	GG	decreased	NA	NA

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs2297480**

Patients with the GG genotype may have an decreased chance of response to bisphosphonate treatment as compared to patients with the GT and TT genotype. Other genetic and clinical factors may also influence a patients chance of response.

Risedronate

Risedronate is a bisphosphonate used to strengthen bone, treat or prevent osteoporosis

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs16944	★★	IL1B	AG	decreased	NA	NA
rs2297480	★★½	FDPS	GG	decreased	NA	NA

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs16944**

Patients with the AG genotype and Pagets disease of bone who are treated with bisphosphonates may have a decreased, but not absent, risk of resistance as compared to patients with the GG genotype. Other genetic and clinical factors may also influence a patients risk for resistance to bisphosphonates.

The description of **rs2297480**

Patients with the GG genotype may have an decreased chance of response to bisphosphonate treatment as compared to patients with the GT and TT genotype. Other genetic and clinical factors may also influence a patients chance of response.

Analgesics

An analgesic, or painkiller, is any member of the group of drugs used to achieve analgesia relief from pain.

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs2070995	★★	KCNJ6	CT	increased	NA	NA

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs2070995**

Patients with the TC genotype and post-operative pain may be less likely to require rescue analgesic administration as compared to patients with the TT genotype. Other genetic and clinical factors may also influence a patients chance for requiring a rescue analgesic.

Antidepressants

Antidepressants are drugs used for the treatment of major depressive disorder and other conditions, including dysthymia, anxiety disorders, obsessive compulsive disorder, eating disorders, chronic pain, neuropathic pain and, in some cases, dysmenorrhoea, snoring, migraines, attention-deficit hyperactivity disorder (ADHD), substance abuse and sleep disorders. They can be used alone or in combination with other medications.

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs2227631	★★	SERPINE1	AG	decreased	NA	NA
rs6295	★★	HTR1A	CG	increased	NA	NA

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs2227631**

Patients with the AG genotype and genotype GG or AG at rs1799889 with major depressive disorder may be less likely to respond to citalopram and fluoxetine as compared to patients with the AA genotype. Other genetic and clinical factors may also influence a patients risk for non-response to antidepressants.

The description of **rs6295**

Patients with the CG genotype may have a increased likelihood of response to antidepressants as compared to patients with the CC genotype. Other genetic and clinical factors may also influence response to antidepressants.

Bupropion

Bupropion is a drug primarily used as an atypical antidepressant and smoking cessation aid. Marketed as Wellbutrin, Budeprion, Prexaton, Elontril, Aplenzin, or other trade names, it is one of the most frequently prescribed antidepressants in the United States. Marketed in lower-dose formulations as Zyban, Voxra, or other names, it is also widely used to reduce nicotine cravings by people who are trying to quit smoking. It is taken in the form of pills, and in the United States is available only by prescription.

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs165599	★★	ARVCF	AA	increased	NA	NA
rs1800497	★★★½	ANKK1	AG	decreased	NA	NA

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs165599**

Patients with the AA genotype may have an increased chance of response to bupropion treatment for smoking cessation as compared to patients with the GG genotype. Patients with the AA genotype may still be at risk for non-response to bupropion treatment based on their genotype. Other genetic and clinical factors may also influence a patients chance of response.

The description of **rs1800497**

Patients with the AG genotype who are treated with bupropion may be less likely to quit smoking as compared to patients with the GG genotype. Other genetic and clinical factors may also influence a patients chance for quitting smoking.

Carbamazepine

An anticonvulsant used to control grand mal and psychomotor or focal seizures. Its mode of action is not fully understood, but some of its actions resemble those of phenytoin; although there is little chemical resemblance between the two compounds, their three-dimensional structure is similar.

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs3812718	★★½	SCN1A	TT	NA	increased	NA
rs1051740	★★½	EPHX1	CT	NA	increased	NA
rs750332	★★	BAT2	TT	NA	NA	decreased

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs3812718**

Patients with the TT genotype who are treated with carbamazepine may require the highest dose as compared to patients with the CT or CC genotype. Other genetic and clinical factors may also influence dose of carbamazepine.

The description of **rs1051740**

Patients with the CT genotype and Epilepsy who are treated with carbamazepine may have an increased dose of carbamazepine as compared to patients with the TT genotype. Other genetic and clinical factors may also influence a patients response to carbamazepine.

The description of **rs750332**

Patients with the TT genotype who are treated with carbamazepine may have a decreased, but not absent, risk of Stevens-Johnson syndrome as compared to patients with the CT or CC genotype. Other genetic and clinical factors may also influence a patients risk for Stevens-Johnson syndrome with carbamazepine treatment.

Citalopram

Citalopram hydrobromide belongs to a class of antidepressant agents known as selective serotonin-reuptake inhibitors (SSRIs)

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs2227631	★★	SERPINE1	AG	decreased	NA	NA
rs334558	★★	GSK3B	GG	increased	NA	NA
rs1954787	★★★½	GRIK4	CC	increased	NA	NA

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs2227631**

Patients with the AG genotype and genotype GG or AG at rs1799889 with major depressive disorder may be less likely to respond to citalopram and fluoxetine as compared to patients with the AA genotype. Other genetic and clinical factors may also influence a patients risk for non-response to antidepressants.

The description of **rs334558**

Patients with the GG genotype and Major Depressive Disorder who are treated with fluoxetine and citalopram may have more improvement in symptoms as compared to patients with the AG or AA genotype. Other genetic and clinical factors may also influence a patients response to fluoxetine and citalopram.

The description of **rs1954787**

Patients with the CC genotype may have an increased chance of response to citalopram treatment as compared to patients with the TT genotype. Patients with the CC genotype may still be at risk for non-response to citalopram treatment based on their genotype. Other genetic and clinical factors may also influence a patients chance of response.

Clozapine

A tricylic dibenzodiazepine, classified as an atypical antipsychotic agent. It binds several types of central nervous system receptors, and displays a unique pharmacological profile. Clozapine is a serotonin antagonist, with strong binding to 5-HT 2A/2C receptor subtype. It also displays strong affinity to several dopaminergic receptors, but shows only weak antagonism at the dopamine D2 receptor, a receptor commonly thought to modulate neuroleptic activity. Agranulocytosis is a major adverse effect associated with administration of this agent.

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs6280	★★	DRD3	TT	increased	NA	NA
rs1079598	★★	DRD2	AG	NA	NA	increased
rs1800497	★★½	ANKK1	AG	NA	NA	increased

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs6280**

Patients with the TT genotype and Schizophrenia who are treated with clozapine may have a better response to treatment as compared to patients with the CC or CT genotype. Please note; this association was not found in a meta-analysis. Other genetic and clinical factors may also influence a patients response to clozapine treatment.

The description of **rs1079598**

Patients with the AG genotype may have an increased risk for weight gain when treated with clozapine or olanzepine as compared to patients with the AA genotype. Other genetic and clinical factors may also influence a patients risk of side-effects.

The description of **rs1800497**

Patients with the AG genotype may have increased risk of side effects including hyperprolactinemia and weight gain during treatment with antipsychotic drugs as compared to patients with the GG genotype. Other genetic and clinical factors may also influence a patients risk for side effects.

Drugs used in nicotine dependence

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs16969968	★★	CHRNA3	AG	increased	NA	NA
rs1800497	★★	ANKK1	AG	increased	NA	NA

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs16969968**

Patients with AG genotype may have a decreased likelihood of smoking cessation when treated with nicotine replacement therapy (transdermal nicotine patch) as compared to patients with the AA genotype. However, contradictory findings have been reported, with the AG genotype may be associated with an increased likelihood of smoking cessation compared to AA genotype. Finding are based on haplotype analysis of rs16969968 and rs680244. Other genetic and clinical factors may influence a patients likelihood of smoking cessation.

The description of **rs1800497**

Patients with AG genotype may have an increased likelihood of smoking cessation when treated with nicotine replacement therapy as compared to patients with the GG genotype. However, contradictory findings have been reported. Other genetic and clinical factors may influence a patients likelihood of smoking cessation.

Fluoxetine

Fluoxetine hydrochloride is the first agent of the class of antidepressants known as selective serotonin-reuptake inhibitors (SSRIs).

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs25531	★	SLC6A4	CC	decreased	NA	NA
rs2227631	★★	SERPINE1	AG	decreased	NA	NA
rs334558	★★	GSK3B	GG	increased	NA	NA

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs25531**

Patients with the CC genotype and Major Depressive Disorder who are treated with fluoxetine may be less likely to respond compared to patients with genotype TT. Other genetic and clinical factors may also influence a patients response.

The description of **rs2227631**

Patients with the AG genotype and genotype GG or AG at rs1799889 with major depressive disorder may be less likely to respond to citalopram and fluoxetine as compared to patients with the AA genotype. Other genetic and clinical factors may also influence a patients risk for non-response to antidepressants.

The description of **rs334558**

Patients with the GG genotype and Major Depressive Disorder who are treated with fluoxetine and citalopram may have more improvement in symptoms as compared to patients with the AG or AA genotype. Other genetic and clinical factors may also influence a patients response to fluoxetine and citalopram.

Fluvoxamine

Fluvoxamine is an antidepressant which functions pharmacologically as a selective serotonin reuptake inhibitor. Though it is in the same class as other SSRI drugs, it is most often used to treat obsessive-compulsive disorder.

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs10042486	★★	HTR1A	CT	decreased	NA	NA
rs6295	★★	HTR1A	CG	increased	NA	NA

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs10042486**

Patients with the CT genotype and Major Depressive Disorder who are treated with fluvoxamine, paroxetine, or milnacipran may have decreased response to treatment as compared to patients with the CC genotype. Other genetic and clinical factors may also influence a patients response.

The description of **rs6295**

Patients with the CG genotype may have a increased likelihood of response to antidepressants as compared to patients with the CC genotype. Other genetic and clinical factors may also influence response to antidepressants.

Nicotine

Nicotine is highly toxic alkaloid. It is the prototypical agonist at nicotinic cholinergic receptors where it dramatically stimulates neurons and ultimately blocks synaptic transmission. Nicotine is also important medically because of its presence in tobacco smoke. [PubChem]

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs16969968	★★	CHRNA5	AG	NA	NA	increased
rs1800497	★★	ANKK1	AG	increased	NA	NA

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs16969968**

Patients with AG genotype may have an increased risk for nicotine dependence when exposed to nicotine as compared to patients with the GG genotype. Findings are based on haplotype studies with either rs680244 or rs680244, rs569207 rs578776, and rs1051730. Other genetic and clinical factors may influence a patients risk for nicotine dependency.

The description of **rs1800497**

Patients with AG genotype may have an increased likelihood of smoking cessation when treated with nicotine replacement therapy as compared to patients with the GG genotype. However, contradictory findings have been reported. Other genetic and clinical factors may influence a patients likelihood of smoking cessation.

Olanzapine

Olanzapine is an atypical antipsychotic, approved by the FDA in 1996. Olanzapine is manufactured and marketed by the pharmaceutical company Eli Lilly and Company, whose patent for olanzapine proper ends in 2011.

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs2842030	★★	RGS4	TT	increased	NA	NA
rs4731426	★★	LEP	CC	NA	NA	decreased
rs7997012	★★	HTR2A	AG	NA	NA	decreased
rs6280	★★	DRD3	TT	decreased	NA	NA
rs1079598	★★	DRD2	AG	NA	NA	increased
rs1800497	★★½	ANKK1	AG	NA	NA	increased

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs2842030**
Patients with the TT genotype and schizophrenia may be more likely to have improvement in symptoms when treated with olanzapine and perphanazine rather than quetiapine, risperidone, or ziprasidone as compared to patients with the GT or GG genotype. Other genetic and clinical factors may also influence a patients response to perphanazine.

The description of **rs4731426**
Patients with the CC genotype and schizophrenia who are treated with olanzapine may have a decreased, but not absent, risk of extreme weight gain as compared to patients with the GG genotype. Other genetic and clinical factors may also influence a patients risk of extreme weight gain with olanzapine treatment.

The description of **rs7997012**
Patients with the AG genotype and psychiatric disorders who are treated with olanzapine may have a decreased, but not absent, risk for more side effects as compared to patients with the AA genotype. Other genetic and clinical factors may also influence a patients risk for side effects with olanzapine treatment.

The description of **rs6280**
Patients with the TT genotype and schizophrenia who are treated with olanzapine may have reduced positive symptom improvement and positive symptom remission as compared to patients with the CC genotypes. Other genetic and clinical factors may also influence a patients response to olanzapine.

The description of **rs1079598**
Patients with the AG genotype may have an increased risk for weight gain when treated with clozapine or olanzepine as compared to patients with the AA genotype. Other genetic and clinical factors may also influence a patients risk of side-effects.

The description of **rs1800497**

Patients with the AG genotype may have increased risk of side effects including hyperprolactinemia and weight gain during treatment with antipsychotic drugs as compared to patients with the GG genotype. Other genetic and clinical factors may also influence a patients risk for side effects.

Paroxetine

Tricyclic antidepressant similar to imipramine, but with more antihistaminic and sedative properties. [PubChem]

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs10042486	★★	HTR1A	CT	decreased	NA	NA
rs11042725	★★	ADM	AC	increased	NA	NA

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs10042486**

Patients with the CT genotype and Major Depressive Disorder who are treated with fluvoxamine, paroxetine, or milnacipran may have decreased response to treatment as compared to patients with the CC genotype. Other genetic and clinical factors may also influence a patients response.

The description of **rs11042725**

Patients with the AC genotype and major depressive disorder who are treated with paroxetine may have an increased response as compared to patients with the CC genotype. Other genetic and clinical factors may also influence a patients response to paroxetine.

Perphenazine

An antipsychotic phenothiazine derivative with actions and uses similar to those of chlorpromazine. [PubChem]

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs2842030	★★	RGS4	TT	increased	NA	NA

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs2842030**

Patients with the TT genotype and schizophrenia may be more likely to have improvement in symptoms when treated with olanzapine and perphanazine rather than quetiapine, risperidone, or ziprasidone as compared to patients with the GT or GG genotype. Other genetic and clinical factors may also influence a patients response to perphanazine.

Phenytoin

An anticonvulsant that is used in a wide variety of seizures. It is also an anti-arrhythmic and a muscle relaxant. The mechanism of therapeutic action is not clear, although several cellular actions have been described including effects on ion channels, active transport, and general membrane stabilization.

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs3812718	★★½	SCN1A	TT	NA	increased	NA

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs3812718**

Patients with the TT genotype who are treated with phenytoin may require the highest dose as compared to patients with the CT or CC genotype. Other genetic and clinical factors may also influence dose of phenytoin.

Pramipexole

Pramipexole is a medication indicated for treating Parkinson??s disease and restless legs syndrome (RLS). It is also sometimes used off-label as a treatment for cluster headache or to counteract the problems with low libido experienced by some users of SSRI antidepressant drugs.

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs6280	★★	DRD3	TT	increased	NA	NA

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs6280**

Patients with the TT genotype may have better therapeutic efficacy (response rate = 60%)of pramipexole in Chinese patients with Parkinsons disease compared to patiens carrying the C allele (response rate =13%). Other genetic and clinical factors may also influence a patients response.

Risperidone

Risperidone, a benzisoxazole derivative, is an atypical antipsychotic drug with high affinity for 5-hydrotryptamine (5-HT) and dopamine D2 receptors.

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs2661319	★★	RGS4	CC	decreased	NA	NA
rs2842030	★	RGS4	TT	decreased	NA	NA
rs7799039	★★	LEP	AA	NA	NA	increased
rs724226	★★	GRM3	AG	increased	NA	NA
rs167771	★★	DRD3	AA	NA	NA	decreased
rs6280	★★	DRD3	TT	decreased	NA	NA
rs1799978	★★	DRD2	CT	NA	NA	increased
rs165599	★★	COMT	AA	decreased	NA	NA
rs1800497	★★½	ANKK1	AG	NA	NA	increased
rs1800497	★★	ANKK1	AG	increased	NA	NA
rs2494732	★★	AKT1	CC	decreased	NA	NA

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs2661319**
Patients with the CC genotype and schizophrenia who are treated with risperidone may have less improvement in symptoms as compared to patients with the TT genotype. Other genetic and clinical factors may also influence a patients response to risperidone.

The description of **rs2842030**
Patients with the TT genotype may have poorer response to risperidone than to perphenazine, quetiapine, and ziprasidone treatment in people with schizophrenia compared to patients with the GG genotype. Other genetic and clinical factors may also influence a patients response.

The description of **rs7799039**
Patients with the AA genotype may have excessive risperidone-associated weight gain in youths as compared to patients with the GG genotype. Other genetic and clinical factors may also influence a patients risk for toxicity.

The description of **rs724226**
Patients with the AG genotype and schizophrenia who are treated with risperidone may have more improvement

in symptoms as compared to patients with the AA genotype. Other genetic and clinical factors may also influence a patients response to risperidone.

The description of **rs167771**
Patients with the AA genotype may have decreased risk for extrapyramidal symptoms in psychiatric patients receiving risperidone as compared to patients with the AG or GG genotype. Patients with the AA genotype may still be at risk for toxicity when taking risperidone. Other genetic and clinical factors may also influence a patients risk for toxicity.

The description of **rs6280**
Patients with the TT genotype may have smaller reductions in Autism Treatment Evaluation Checklist (ATEC) scores, indicating poorer response to risperidone in Children with Autism, than TT homozygotes compared to patients with the CC or CT genotype. Other genetic and clinical factors may also influence a patients response.

The description of **rs1799978**
Patients with the CT genotype may have increased risk of Hyperprolactinemia when treated with risperidone as compared to patients with the TT genotype. Other genetic and clinical factors may also influence a patients risk for toxicity.

The description of **rs165599**
Patients with the AA genotype and schizophrenia who are treated with risperidone may have less improvement in symptoms as compared to patients with the GG genotype. Other genetic and clinical factors may also influence a patients response to risperidone.

The description of **rs1800497**
Patients with the AG genotype may have increased risk of side effects including hyperprolactinemia and weight gain during treatment with antipsychotic drugs as compared to patients with the GG genotype. Other genetic and clinical factors may also influence a patients risk for side effects.

The description of **rs1800497**
Patients with the AG genotype and schizophrenia who are treated with risperidone may have more improvement in symptoms as compared to patients with the GG genotype or may have less improvement in symptoms as compared to patients with the AA genotype. Other genetic and clinical factors may also influence a patients response to risperidone.

The description of **rs2494732**
Patients with the CC genotype and schizophrenia who are treated with risperidone may be less likely to have an improvement in symptoms as compared to patients with the TT genotype. Other genetic and clinical factors may also influence a patients response to risperidone.

Analgesics

An analgesic, or painkiller, is any member of the group of drugs used to achieve analgesia relief from pain.

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs2070995	★★	KCNJ6	CT	increased	NA	NA

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs2070995**

Patients with the TC genotype and post-operative pain may be less likely to require rescue analgesic administration as compared to patients with the TT genotype. Other genetic and clinical factors may also influence a patients chance for requiring a rescue analgesic.

Pramipexole

Pramipexole is a medication indicated for treating Parkinson??s disease and restless legs syndrome (RLS). It is also sometimes used off-label as a treatment for cluster headache or to counteract the problems with low libido experienced by some users of SSRI antidepressant drugs.

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs6280	★★	DRD3	TT	increased	NA	NA

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs6280**

Patients with the TT genotype may have better therapeutic efficacy (response rate = 60%)of pramipexole in Chinese patients with Parkinsons disease compared to patiens carrying the C allele (response rate =13%). Other genetic and clinical factors may also influence a patients response.

Carbamazepine

An anticonvulsant used to control grand mal and psychomotor or focal seizures. Its mode of action is not fully understood, but some of its actions resemble those of phenytoin; although there is little chemical resemblance between the two compounds, their three-dimensional structure is similar.

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs3812718	★★½	SCN1A	TT	NA	increased	NA
rs1051740	★★½	EPHX1	CT	NA	increased	NA
rs750332	★★	BAT2	TT	NA	NA	decreased

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs3812718**

Patients with the TT genotype who are treated with carbamazepine may require the highest dose as compared to patients with the CT or CC genotype. Other genetic and clinical factors may also influence dose of carbamazepine.

The description of **rs1051740**

Patients with the CT genotype and Epilepsy who are treated with carbamazepine may have an increased dose of carbamazepine as compared to patients with the TT genotype. Other genetic and clinical factors may also influence a patients response to carbamazepine.

The description of **rs750332**

Patients with the TT genotype who are treated with carbamazepine may have a decreased, but not absent, risk of Stevens-Johnson syndrome as compared to patients with the CT or CC genotype. Other genetic and clinical factors may also influence a patients risk for Stevens-Johnson syndrome with carbamazepine treatment.

Phenytoin

An anticonvulsant that is used in a wide variety of seizures. It is also an anti-arrhythmic and a muscle relaxant. The mechanism of therapeutic action is not clear, although several cellular actions have been described including effects on ion channels, active transport, and general membrane stabilization.

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs3812718	★★½	SCN1A	TT	NA	increased	NA

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs3812718**

Patients with the TT genotype who are treated with phenytoin may require the highest dose as compared to patients with the CT or CC genotype. Other genetic and clinical factors may also influence dose of phenytoin.

Nicotine

Nicotine is highly toxic alkaloid. It is the prototypical agonist at nicotinic cholinergic receptors where it dramatically stimulates neurons and ultimately blocks synaptic transmission. Nicotine is also important medically because of its presence in tobacco smoke. [PubChem]

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs16969968	★★	CHRNA5	AG	NA	NA	increased
rs1800497	★★	ANKK1	AG	increased	NA	NA

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs16969968**

Patients with AG genotype may have an increased risk for nicotine dependence when exposed to nicotine as compared to patients with the GG genotype. Findings are based on haplotype studies with either rs680244 or rs680244, rs569207 rs578776, and rs1051730. Other genetic and clinical factors may influence a patients risk for nicotine dependency.

The description of **rs1800497**

Patients with AG genotype may have an increased likelihood of smoking cessation when treated with nicotine replacement therapy as compared to patients with the GG genotype. However, contradictory findings have been reported. Other genetic and clinical factors may influence a patients likelihood of smoking cessation.

Citalopram

Citalopram hydrobromide belongs to a class of antidepressant agents known as selective serotonin-reuptake inhibitors (SSRIs)

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs2227631	★★	SERPINE1	AG	decreased	NA	NA
rs334558	★★	GSK3B	GG	increased	NA	NA
rs1954787	★★★½	GRIK4	CC	increased	NA	NA

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs2227631**

Patients with the AG genotype and genotype GG or AG at rs1799889 with major depressive disorder may be less likely to respond to citalopram and fluoxetine as compared to patients with the AA genotype. Other genetic and clinical factors may also influence a patients risk for non-response to antidepressants.

The description of **rs334558**

Patients with the GG genotype and Major Depressive Disorder who are treated with fluoxetine and citalopram may have more improvement in symptoms as compared to patients with the AG or AA genotype. Other genetic and clinical factors may also influence a patients response to fluoxetine and citalopram.

The description of **rs1954787**

Patients with the CC genotype may have an increased chance of response to citalopram treatment as compared to patients with the TT genotype. Patients with the CC genotype may still be at risk for non-response to citalopram treatment based on their genotype. Other genetic and clinical factors may also influence a patients chance of response.

Fluoxetine

Fluoxetine hydrochloride is the first agent of the class of antidepressants known as selective serotonin-reuptake inhibitors (SSRIs).

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs25531	★	SLC6A4	CC	decreased	NA	NA
rs2227631	★★	SERPINE1	AG	decreased	NA	NA
rs334558	★★	GSK3B	GG	increased	NA	NA

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs25531**

Patients with the CC genotype and Major Depressive Disorder who are treated with fluoxetine may be less likely to respond compared to patients with genotype TT. Other genetic and clinical factors may also influence a patients response.

The description of **rs2227631**

Patients with the AG genotype and genotype GG or AG at rs1799889 with major depressive disorder may be less likely to respond to citalopram and fluoxetine as compared to patients with the AA genotype. Other genetic and clinical factors may also influence a patients risk for non-response to antidepressants.

The description of **rs334558**

Patients with the GG genotype and Major Depressive Disorder who are treated with fluoxetine and citalopram may have more improvement in symptoms as compared to patients with the AG or AA genotype. Other genetic and clinical factors may also influence a patients response to fluoxetine and citalopram.

Fluvoxamine

Fluvoxamine is an antidepressant which functions pharmacologically as a selective serotonin reuptake inhibitor. Though it is in the same class as other SSRI drugs, it is most often used to treat obsessive-compulsive disorder.

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs10042486	★★	HTR1A	CT	decreased	NA	NA
rs6295	★★	HTR1A	CG	increased	NA	NA

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs10042486**

Patients with the CT genotype and Major Depressive Disorder who are treated with fluvoxamine, paroxetine, or milnacipran may have decreased response to treatment as compared to patients with the CC genotype. Other genetic and clinical factors may also influence a patients response.

The description of **rs6295**

Patients with the CG genotype may have a increased likelihood of response to antidepressants as compared to patients with the CC genotype. Other genetic and clinical factors may also influence response to antidepressants.

Paroxetine

Tricyclic antidepressant similar to imipramine, but with more antihistaminic and sedative properties. [PubChem]

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs10042486	★★	HTR1A	CT	decreased	NA	NA
rs11042725	★★	ADM	AC	increased	NA	NA

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs10042486**

Patients with the CT genotype and Major Depressive Disorder who are treated with fluvoxamine, paroxetine, or milnacipran may have decreased response to treatment as compared to patients with the CC genotype. Other genetic and clinical factors may also influence a patients response.

The description of **rs11042725**

Patients with the AC genotype and major depressive disorder who are treated with paroxetine may have an increased response as compared to patients with the CC genotype. Other genetic and clinical factors may also influence a patients response to paroxetine.

Clozapine

A tricylic dibenzodiazepine, classified as an atypical antipsychotic agent. It binds several types of central nervous system receptors, and displays a unique pharmacological profile. Clozapine is a serotonin antagonist, with strong binding to 5-HT 2A/2C receptor subtype. It also displays strong affinity to several dopaminergic receptors, but shows only weak antagonism at the dopamine D2 receptor, a receptor commonly thought to modulate neuroleptic activity. Agranulocytosis is a major adverse effect associated with administration of this agent.

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs6280	★★	DRD3	TT	increased	NA	NA
rs1079598	★★	DRD2	AG	NA	NA	increased
rs1800497	★★½	ANKK1	AG	NA	NA	increased

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs6280**

Patients with the TT genotype and Schizophrenia who are treated with clozapine may have a better response to treatment as compared to patients with the CC or CT genotype. Please note; this association was not found in a meta-analysis. Other genetic and clinical factors may also influence a patients response to clozapine treatment.

The description of **rs1079598**

Patients with the AG genotype may have an increased risk for weight gain when treated with clozapine or olanzepine as compared to patients with the AA genotype. Other genetic and clinical factors may also influence a patients risk of side-effects.

The description of **rs1800497**

Patients with the AG genotype may have increased risk of side effects including hyperprolactinemia and weight gain during treatment with antipsychotic drugs as compared to patients with the GG genotype. Other genetic and clinical factors may also influence a patients risk for side effects.

Olanzapine

Olanzapine is an atypical antipsychotic, approved by the FDA in 1996. Olanzapine is manufactured and marketed by the pharmaceutical company Eli Lilly and Company, whose patent for olanzapine proper ends in 2011.

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs2842030	★★	RGS4	TT	increased	NA	NA
rs4731426	★★	LEP	CC	NA	NA	decreased
rs7997012	★★	HTR2A	AG	NA	NA	decreased
rs6280	★★	DRD3	TT	decreased	NA	NA
rs1079598	★★	DRD2	AG	NA	NA	increased
rs1800497	★★½	ANKK1	AG	NA	NA	increased

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs2842030**
Patients with the TT genotype and schizophrenia may be more likely to have improvement in symptoms when treated with olanzapine and perphanazine rather than quetiapine, risperidone, or ziprasidone as compared to patients with the GT or GG genotype. Other genetic and clinical factors may also influence a patients response to perphanazine.

The description of **rs4731426**
Patients with the CC genotype and schizophrenia who are treated with olanzapine may have a decreased, but not absent, risk of extreme weight gain as compared to patients with the GG genotype. Other genetic and clinical factors may also influence a patients risk of extreme weight gain with olanzapine treatment.

The description of **rs7997012**
Patients with the AG genotype and psychiatric disorders who are treated with olanzapine may have a decreased, but not absent, risk for more side effects as compared to patients with the AA genotype. Other genetic and clinical factors may also influence a patients risk for side effects with olanzapine treatment.

The description of **rs6280**
Patients with the TT genotype and schizophrenia who are treated with olanzapine may have reduced positive symptom improvement and positive symptom remission as compared to patients with the CC genotypes. Other genetic and clinical factors may also influence a patients response to olanzapine.

The description of **rs1079598**
Patients with the AG genotype may have an increased risk for weight gain when treated with clozapine or olanzepine as compared to patients with the AA genotype. Other genetic and clinical factors may also influence a patients risk of side-effects.

The description of **rs1800497**

Patients with the AG genotype may have increased risk of side effects including hyperprolactinemia and weight gain during treatment with antipsychotic drugs as compared to patients with the GG genotype. Other genetic and clinical factors may also influence a patients risk for side effects.

Perphenazine

An antipsychotic phenothiazine derivative with actions and uses similar to those of chlorpromazine. [PubChem]

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs2842030	★★	RGS4	TT	increased	NA	NA

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs2842030**

Patients with the TT genotype and schizophrenia may be more likely to have improvement in symptoms when treated with olanzapine and perphanazine rather than quetiapine, risperidone, or ziprasidone as compared to patients with the GT or GG genotype. Other genetic and clinical factors may also influence a patients response to perphanazine.

Risperidone

Risperidone, a benzisoxazole derivative, is an atypical antipsychotic drug with high affinity for 5-hydrotryptamine (5-HT) and dopamine D2 receptors.

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs2661319	★★	RGS4	CC	decreased	NA	NA
rs2842030	★	RGS4	TT	decreased	NA	NA
rs7799039	★★	LEP	AA	NA	NA	increased
rs724226	★★	GRM3	AG	increased	NA	NA
rs167771	★★	DRD3	AA	NA	NA	decreased
rs6280	★★	DRD3	TT	decreased	NA	NA
rs1799978	★★	DRD2	CT	NA	NA	increased
rs165599	★★	COMT	AA	decreased	NA	NA
rs1800497	★★½	ANKK1	AG	NA	NA	increased
rs1800497	★★	ANKK1	AG	increased	NA	NA
rs2494732	★★	AKT1	CC	decreased	NA	NA

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs2661319**
Patients with the CC genotype and schizophrenia who are treated with risperidone may have less improvement in symptoms as compared to patients with the TT genotype. Other genetic and clinical factors may also influence a patients response to risperidone.

The description of **rs2842030**
Patients with the TT genotype may have poorer response to risperidone than to perphenazine, quetiapine, and ziprasidone treatment in people with schizophrenia compared to patients with the GG genotype. Other genetic and clinical factors may also influence a patients response.

The description of **rs7799039**
Patients with the AA genotype may have excessive risperidone-associated weight gain in youths as compared to patients with the GG genotype. Other genetic and clinical factors may also influence a patients risk for toxicity.

The description of **rs724226**
Patients with the AG genotype and schizophrenia who are treated with risperidone may have more improvement

in symptoms as compared to patients with the AA genotype. Other genetic and clinical factors may also influence a patients response to risperidone.

The description of **rs167771**
Patients with the AA genotype may have decreased risk for extrapyramidal symptoms in psychiatric patients receiving risperidone as compared to patients with the AG or GG genotype. Patients with the AA genotype may still be at risk for toxicity when taking risperidone. Other genetic and clinical factors may also influence a patients risk for toxicity.

The description of **rs6280**
Patients with the TT genotype may have smaller reductions in Autism Treatment Evaluation Checklist (ATEC) scores, indicating poorer response to risperidone in Children with Autism, than TT homozygotes compared to patients with the CC or CT genotype. Other genetic and clinical factors may also influence a patients response.

The description of **rs1799978**
Patients with the CT genotype may have increased risk of Hyperprolactinemia when treated with risperidone as compared to patients with the TT genotype. Other genetic and clinical factors may also influence a patients risk for toxicity.

The description of **rs165599**
Patients with the AA genotype and schizophrenia who are treated with risperidone may have less improvement in symptoms as compared to patients with the GG genotype. Other genetic and clinical factors may also influence a patients response to risperidone.

The description of **rs1800497**
Patients with the AG genotype may have increased risk of side effects including hyperprolactinemia and weight gain during treatment with antipsychotic drugs as compared to patients with the GG genotype. Other genetic and clinical factors may also influence a patients risk for side effects.

The description of **rs1800497**
Patients with the AG genotype and schizophrenia who are treated with risperidone may have more improvement in symptoms as compared to patients with the GG genotype or may have less improvement in symptoms as compared to patients with the AA genotype. Other genetic and clinical factors may also influence a patients response to risperidone.

The description of **rs2494732**
Patients with the CC genotype and schizophrenia who are treated with risperidone may be less likely to have an improvement in symptoms as compared to patients with the TT genotype. Other genetic and clinical factors may also influence a patients response to risperidone.

Montelukast

Montelukast is a leukotriene receptor antagonist (LTRA) used for the maintenance treatment of asthma and to relieve symptoms of seasonal allergies. It is usually administered orally. Montelukast blocks the action of leukotriene D4 on the cysteinyl leukotriene receptor CysLT1 in the lungs and bronchial tubes by binding to it.

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs2660845	★★	LTA4H	AG	NA	NA	increased
rs2115819	★★	ALOX5	GG	increased	NA	NA

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs2660845**

Patients with the AG genotype and asthma who are treated with montelukast may have an increased risk of asthma exacerbations as compared to patients with the AA genotype. Other genetic and clinical factors may also influence a patients risk of asthma exacerbations with montelukast treatment.

The description of **rs2115819**

Patients with the GG genotype and Asthma may have an increased response to montelukast treatment, based on an increased Forced expiratory volume in one second (FEV1) response to montelukast at 6 month of treatment, compared to patients with the AA and AG genotype. Other genetic and clinical factors may also influence a patients response to montelukast.

Ace inhibitors, plain

An ACE inhibitor (or angiotensin-converting-enzyme inhibitor) is a pharmaceutical drug used primarily for the treatment of hypertension (elevated blood pressure) and congestive heart failure.

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs2016848	★★	MME	AG	NA	NA	increased
rs1799722	★★	BDKRB2	CT	NA	NA	increased

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs2016848**

Patients with the AG genotype who are treated with ACE inhibitors may have an increased risk for cough as compared to patients with the GG genotype. Other genetic and clinical factors may also influence a patients risk for cough with ACE inhibitor treatment. Patients with this genotype were not studied directly.

The description of **rs1799722**

Patients with the CT genotype who are treated with ACE inhibitors may have an increased risk for cough as compared to patients with the CC genotype. Other genetic and clinical factors may also influence a patients risk for cough.

Acenocoumarol

Acenocoumarol is an anticoagulant that functions as a vitamin K antagonist (like warfarin). It is a derivative of coumarin and is marketed under the brand names Sintrom and Sinthrome.

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs9934438	★★★½	VKORC1	AA	NA	decreased	NA
rs2108622	★★★½	CYP4F2	CT	NA	increased	NA
rs4086116	★★	CYP2C9	CT	NA	decreased	NA

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs9934438**

Patients with the AA genotype who are treated with warfarin or acenocoumarol may require a lower dose as compared to patients with the AG or GG genotype. Other genetic and clinical factors may also influence a patients required dose of warfarin or acenocoumarol.

The description of **rs2108622**

Patients with the CT genotype who are taking an oral anticoagulant may require a higher dose as compared to patients with the CC genotype. Other genetic and clinical factors may also influence a patients required dose.

The description of **rs4086116**

Patients with the CT genotype may require a lower dose of acenocoumarol as compared to patients with the CC genotype. Other genetic and clinical factors may also influence acenocoumarol dose.

Alkylating agents

An alkylating antineoplastic agent is an alkylating agent used in cancer treatment that attaches an alkyl group to DNA.

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs712829		EGFR	GT	decreased	NA	NA

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs712829**

Cancer cells with the GT genotype may be less sensitive to Alkylating agents than cells with genotype GG. Other genetic and clinical factors may also influence tumor response to Alkylating agents.

Anthracyclines and related substances

These compounds are used to treat many cancers, including leukemias, lymphomas, breast, uterine, ovarian, and lung cancers.

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs10836235	☆☆	CAT	TT	NA	NA	decreased

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs10836235**

Patients with the TT genotype may have decreased risk of cardiac damage after anthracycline exposure as compared to patients with the CC genotype. Patients with the TT genotype may still be at risk for adverse events when exposed to anthracyclines based on their genotype. Other genetic and clinical factors may also influence a patients risk for adverse events.

Antipsychotics

Antipsychotics (also known as neuroleptics or major tranquilizers)[1] are a class of psychiatric medication primarily used to manage psychosis (including delusions, hallucinations, or disordered thought), in particular in schizophrenia and bipolar disorder, and is increasingly being used in the management of non-psychotic disorders (ATC code N05A).

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs1079598	★★	DRD2	AG	NA	NA	increased
rs4680	★★	COMT	AG	NA	NA	decreased
rs1801133	★★	CLCN6	AG	NA	NA	increased
rs1800497	★★½	ANKK1	AG	NA	NA	increased

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs1079598**
Patients with the AG genotype may have an increased risk for weight gain when treated with clozapine or olanzepine as compared to patients with the AA genotype. Other genetic and clinical factors may also influence a patients risk of side-effects.

The description of **rs4680**
Patients with the AG genotype and Schizophrenia who are treated with antipsychotics may have a decreased risk of tardive dyskinesia as compared to patients with the GG genotype. Other genetic and clinical factors may also influence a patients risk for tardive dyskinesia.

The description of **rs1801133**
Patients with the AG genotype treated with antipsychotics may have increased risk for metabolic syndrome as compared to patients with the GG genotype. Other genetic and clinical factors may also influence a patients risk for adverse events.

The description of **rs1800497**
Patients with the AG genotype may have increased risk of side effects including hyperprolactinemia and weight gain during treatment with antipsychotic drugs as compared to patients with the GG genotype. Other genetic and clinical factors may also influence a patients risk for side effects.

Bisphosphonates

Bisphosphonates (also called diphosphonates) are a class of drugs that prevent the loss of bone mass, used to treat osteoporosis and similar diseases. They are the most commonly prescribed drugs used to treat osteoporosis.

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs16944	★★	IL1B	AG	decreased	NA	NA
rs2297480	★★½	FDPS	GG	decreased	NA	NA
rs1934951	★★	CYP2C8	CT	NA	NA	decreased

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs16944**

Patients with the AG genotype and Pagets disease of bone who are treated with bisphosphonates may have a decreased, but not absent, risk of resistance as compared to patients with the GG genotype. Other genetic and clinical factors may also influence a patients risk for resistance to bisphosphonates.

The description of **rs2297480**

Patients with the GG genotype may have an decreased chance of response to bisphosphonate treatment as compared to patients with the GT and TT genotype. Other genetic and clinical factors may also influence a patients chance of response.

The description of **rs1934951**

Patients with the CT genotype may have decreased but not non-existent risk for osteonecrosis of the jaw in response to bisphosphonates as compared to patients with the TT genotype. Other genetic and clinical factors may also influence adverse responses to bisphosphonates.

Bucindolol

Bucindolol is a non-selective beta blocker with additional weak alpha-blocking properties and some intrinsic sympathomimetic activity.[1][2] It was under review by the FDA in the United States for the treatment of heart failure in 2009

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs1801253	★★	ADRB1	CG	decreased	NA	NA
rs1801253	★★	ADRB1	CG	decreased	NA	increased

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs1801253**

Patients with the CG genotype 1) may have a decreased response to Beta Blocking Agents (this association has not been found in all studies and has been contradicted) 2) may have an increased likelihood for requiring increases in other heart failure medication (for example diuretics), as compared to patients with the CC genotype. Other genetic and clinical factors may also influence a patients response to Beta Blocking Agents.

The description of **rs1801253**

Patients with the CG genotype 1) may have a decreased response to Beta Blocking Agents (this association has not been found in all studies and has been contradicted) 2) may have an increased likelihood for requiring increases in other heart failure medication (for example diuretics), as compared to patients with the CC genotype. Other genetic and clinical factors may also influence a patients response to Beta Blocking Agents.

Cyclosporine

Cyclosporine is available in its original form and as another product that has been modified (changed) so that the medication can be better absorbed in the body. Original cyclosporine and cyclosporine (modified) are absorbed by the body in different amounts, so they cannot be substituted for one another. Take only the type of cyclosporine that was prescribed by your doctor. When your doctor gives you a written prescription, check to be sure that he or she has specified the type of cyclosporine you should receive. Each time you have your prescription filled, look at the brand name printed on your prescription label to be sure that you have received the same type of cyclosporine. Talk to your pharmacist if the brand name is unfamiliar or you are not sure you have received the right type of cyclosporine.

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs776746	⭐⭐	CYP3A5	CT	NA	increased	NA

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs776746**

Patients with the TC genotype may require an increased dose of cyclosporine to reach target blood concentration as compared to patients with the CC genotype, although some studies find no association with dosage. Other genetic and clinical factors may also influence dose of cyclosporine.

Ethanol

Ethanol is a psychoactive drug and is one of the oldest recreational drugs still used by humans. Ethanol can cause alcohol intoxication when consumed. Best known as the type of alcohol found in alcoholic beverages, it is also used in thermometers, as a solvent, and as a fuel. In common usage, it is often referred to simply as alcohol or spirits.

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs1800497	★★½	ANKK1	AG	NA	NA	increased

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs1800497**

Patients with AG genotype may have an increased risk for Alcoholism when exposed to ethanol as compared to patients with the GG genotype. Other genetic and clinical factors may influence a patients risk for alcohol dependency.

Etidronic acid

Etidronic acid is a chelating agent and may be added to bind or, to some extent, counter the effects of substances, such as calcium, iron or other metal ions, which may be discharged as a component of grey wastewater and could conceivably contaminate groundwater supplies. As a phosphonate it has corrosion inhibiting properties on unnalloyed steel. Etidronic acid also acts to retard rancidification and oxidation of fatty acids.

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs16944	★★	IL1B	AG	decreased	NA	NA

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs16944**

Patients with the AG genotype and Pagets disease of bone who are treated with bisphosphonates may have a decreased, but not absent, risk of resistance as compared to patients with the GG genotype. Other genetic and clinical factors may also influence a patients risk for resistance to bisphosphonates.

Geldanamycin

Geldanamycin is a benzoquinone ansamycin antibiotic that inhibits the function of Hsp90 (Heat Shock Protein 90) by binding to the unusual ADP/ATP-binding pocket of the protein.[1] HSP90 client proteins play important roles in the regulation of the cell cycle, cell growth, cell survival, apoptosis, angiogenesis and oncogenesis.

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs712829	★	EGFR	GT	decreased	NA	NA

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs712829**

Patients with the genotype GT who are treated with geldanamycin may be less likely to respond as compared to patients with genotype GG (based solely on in vitro work). Other genetic and clinical factors may also influence a patients response.

Iloperidone

Iloperidone, also known as Fanapt, Fanapta, and previously known as Zomaril, is an atypical antipsychotic for the treatment of schizophrenia.

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs7142881	★★	NUBPL	AG	NA	NA	increased
rs4799915	★★	CELF4	TT	NA	NA	increased

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs7142881**

Patients with the AG genotype who are treated with iloperidone may have increased risk for adverse cardiovascular events as compared to patients with the GG genotype. Other genetic and clinical factors may also influence a patients response.

The description of **rs4799915**

Patients with the TT genotype who are treated with iloperidone may have increased risk for adverse cardiovascular events as compared to patients with the CC genotype. Other genetic and clinical factors may also influence a patients response.

Lithium

Lithium and its compounds have several industrial applications, including heat-resistant glass and ceramics, high strength-to-weight alloys used in aircraft, lithium batteries and lithium-ion batteries. These uses consume more than half of lithium production.

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs2284017	★★	CACNG2	CT	increased	NA	NA

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs2284017**

Patients with the CT genotype may have increased response to lithium as compared to patients with the TT genotype. Other genetic and clinical factors may also influence a patients response to treatment.

Methamphetamine

In low doses, methamphetamine can cause an elevated mood and increase alertness, concentration, and energy in fatigued individuals. At higher doses, it can induce psychosis, rhabdomyolysis and cerebral hemorrhage. Methamphetamine is known to have a high potential for abuse and addiction. Recreational use of methamphetamine may result in psychosis or lead to post-withdrawal syndrome, a withdrawal syndrome that can persist for months beyond the typical withdrawal period. Unlike amphetamine and cocaine, methamphetamine is neurotoxic to humans, damaging both dopamine and serotonin neurons in the CNS. Entirely opposite to the long-term use of amphetamine, there is evidence that methamphetamine causes brain damage from long-term use in humans; this damage includes adverse changes in brain structure and function, such as reductions in gray matter volume in several brain regions and adverse changes in markers of metabolic integrity.

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs2076369	★★	PICK1	GG	NA	NA	decreased

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs2076369**

Patients with the GG genotype who are methamphetamine abusers may have a decreased, but not absent, risk for spontaneous relapse of psychosis as compared to patients with the TT genotype. Other genetic and clinical factors may also influence a patients risk for spontaneous relapse of psychosis with methamphetamine abuse.

Milnacipran

Milnacipran (Ixel, Savella, Dalcipran, Toledomin) is a serotonin

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs10042486	★★	HTR1A	CT	decreased	NA	NA

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs10042486**

Patients with the CT genotype and Major Depressive Disorder who are treated with fluvoxamine, paroxetine, or milnacipran may have decreased response to treatment as compared to patients with the CC genotype. Other genetic and clinical factors may also influence a patients response.

Mycophenolate mofetil

Mycophenolate mofetil is the 2-morpholinoethyl ester of mycophenolic acid (MPA), an immunosuppressive agent, inosine monophosphate dehydrogenase (IMPDH) inhibitor.

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs4149117	★	SLCO1B3	GT	NA	NA	NA
rs2278294	★★	IMPDH1	CT	NA	NA	increased

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs4149117**

Patients with the GT genotype who are renal transplant recipients and are treated with mycophenolate mofetil: 1) may have an increased risk of adverse drug reactions 2) may have decreased exposure to active mycophenolic acid as compared to patients with the TT genotype, or 1) may have a decreased risk of adverse drug reactions 2) may have increased exposure to active mycophenolic acid as compared to patients with the GG genotype. Other genetic and clinical factors may also influence a patients risk for drug-induced toxicity and exposure to mycophenolic acid.

The description of **rs2278294**

Patients with the CT genotype may have increased risk of leukopenia when treated with mycophenolate mofetil as compared to patients with the CC genotype. Other genetic and clinical factors may also influence a patients risk for adverse events.

Nemonapride

Nemonapride (Emilace) is an atypical antipsychotic approved in Japan for the treatment of schizophrenia. It was launched by Yamanouchi in 1991.

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs1800497	★★	ANKK1	AG	NA	NA	increased

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs1800497**

Female patients with the AG genotype and schizophrenia treated with nemonapride may have a greater prolactin response to nemonapride compared to female patients with the GG genotype and male patients. Other genetic and clinical factors may also influence a patients response to nemonapride.

Nitrous oxide

Nitrous oxide, commonly known as laughing gas, nitrous, nitro, or NOS[1] is a chemical compound

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs1801133	★★	MTHFR	AG	NA	NA	NA

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs1801133**

Patients with the GA genotype who undergo elective surgery with nitrous oxide anesthesia may have higher plasma total homocysteine concentrations as compared to patients with the GG genotype. Other genetic and clinical factors may also influence a patients homocysteine levels after nitrous oxide anesthesia.

Platinum compounds

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs25487	★★½	XRCC1	CC	increased	NA	NA
rs11615	★★½	ERCC1	AG	NA	NA	increased

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs25487**

Patients with the CC genotype may have 1) increased survival and 2) increased risk of severe neutropenia when treated with platinum-based regimens as compared to patients with the CT or TT genotype. Other genetic and clinical factors may also influence response to platinum-based regimens.

The description of **rs11615**

Patients with the AG genotype may have 1) increased risk for toxicity 2) decreased survival when treated with platinum compounds as compared to patients with the GG genotype. Other genetic and clinical factors may also influence a patients response to platinum compounds.

Platinum

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs25487	★★½	XRCC1	CC	increased	NA	NA
rs11615	★★½	ERCC1	AG	NA	NA	increased

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs25487**

Patients with the CC genotype may have 1) increased survival and 2) increased risk of severe neutropenia when treated with platinum-based regimens as compared to patients with the CT or TT genotype. Other genetic and clinical factors may also influence response to platinum-based regimens.

The description of **rs11615**

Patients with the AG genotype may have 1) increased risk for toxicity 2) decreased survival when treated with platinum compounds as compared to patients with the GG genotype. Other genetic and clinical factors may also influence a patients response to platinum compounds.

Rofecoxib

Rituximab (trade names Rituxan, MabThera and Zytux) is a chimeric monoclonal antibody against the protein CD20, which is primarily found on the surface of immune system B cells. Rituximab destroys B cells and is therefore used to treat diseases which are characterized by excessive numbers of B cells, overactive B cells, or dysfunctional B cells. This includes many lymphomas, leukemias, transplant rejection, and autoimmune disorders.

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs20417	★★	PTGS2	CG	decreased	NA	NA

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs20417**

Patients with the CG genotype may have poorer pain relief response to rofecoxib as compared to patients with the CC genotype. Other genetic and clinical factors may also influence a patients response to rofecoxib.

Salbutamol

Salbutamol is a short-acting, selective beta2-adrenergic receptor agonist used in the treatment of asthma and COPD. It is 29 times more selective for beta2 receptors than beta1 receptors giving it higher specificity for pulmonary beta receptors versus beta1-adrenergic receptors located in the heart.

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs2267715	★★	CRHR2	AA	increased	NA	NA

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs2267715**

Patients with the AA genotype may have increased response to salbutamol in people with Asthma as compare to patients with the GG genotype. However, contradictory finding has been reported. No conclusive results regarding the association between this variant and bronchodilator response.

Selective beta-2-adrenoreceptor agonists

Selective beta-2-adrenoreceptor agonists are a class of drugs that act on the beta2-adrenergic receptor, thereby causing smooth muscle relaxation, resulting in dilation of bronchial passages, vasodilation in muscle and liver, relaxation of uterine muscle, and release of insulin.They are primarily used to treat asthma and other pulmonary disorders.

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs2267715		CRHR2	AA	increased	NA	NA

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs2267715**

Patients with the AA genotype may have increased response to salbutamol in people with Asthma as compare to patients with the GG genotype. However, contradictory finding has been reported. No conclusive results regarding the association between this variant and bronchodilator response.

Selective serotonin reuptake inhibitors

Selective beta-2-adrenoreceptor agonists are a class of drugs that act on the beta2-adrenergic receptor, thereby causing smooth muscle relaxation, resulting in dilation of bronchial passages, vasodilation in muscle and liver, relaxation of uterine muscle, and release of insulin.They are primarily used to treat asthma and other pulmonary disorders.

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs6295	★★	HTR1A	CG	increased	NA	NA

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs6295**

Patients with the CG genotype may have a increased likelihood of response to antidepressants as compared to patients with the CC genotype. Other genetic and clinical factors may also influence response to antidepressants.

Sulfonamides, urea derivatives

Sulfadoxine (also spelled sulphadoxine) is an ultra-long-lasting sulfonamide often used in combination with pyrimethamine to treat or prevent malaria.[1] It is also used, usually in combination with other drugs, to treat or prevent various infections in livestock.[2]

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs5219	★★	KCNJ11	CC	increased	NA	NA
rs5219	★★	KCNJ11	CC	NA	NA	NA
rs5219	★★	KCNJ11	CC	NA	NA	NA
rs5219	★★	KCNJ11	CC	decreased	NA	NA

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs5219**
Patients with the CC genotype and Type 2 Diabetes who are treated with metformin and sulfonamides, urea derivatives may have a decreased likelihood of treatment failure as compared to patients with the TT genotype. This association with response was not seen in a separate study in patients treated with sulfonamides, urea derivatives. Other genetic and clinical factors may also influence a patients response to treatment.

The description of **rs5219**
Patients with CC genotype may have poorer response (higher decrease in HbA1c) to 6-month treatment of sulfonylureas in people with Type 2 diabetes as compared to patients with genotype CT or TT. Other genetic or clinical factors may also influence a patients response to sulfonylureas.

The description of **rs5219**
Patients with the CC genotype and Type 2 Diabetes who are treated with metformin and sulfonamides, urea derivatives may have a decreased likelihood of treatment failure as compared to patients with the TT genotype. This association with response was not seen in a separate study in patients treated with sulfonamides, urea derivatives. Other genetic and clinical factors may also influence a patients response to treatment.

The description of **rs5219**
Patients with CC genotype may have poorer response (higher decrease in HbA1c) to 6-month treatment of sulfonylureas in people with Type 2 diabetes as compared to patients with genotype CT or TT. Other genetic or clinical factors may also influence a patients response to sulfonylureas.

Taxanes

Taxanes are diterpenes produced by the plants of the genus Taxus (yews), and are widely used as chemotherapy agents.[1] Taxane agents include paclitaxel (Taxol) and docetaxel (Taxotere).Taxanes present difficulties in formulation as medicines because they are poorly soluble in water.

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs1056836	★★	CYP1B1	GG	increased	NA	NA

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs1056836**

Patients with the GG genotype who are treated with taxanes may have longer disease-free progression as compared to patients with the CC genotype. Other genetic and clinical factors may also influence a patients response.

Topoisomerase i inhibitors

Topoisomerase inhibitors are agents designed to interfere with the action of topoisomerase enzymes[1] (topoisomerase I and II), which are enzymes that control the changes in DNA structure[2] by catalyzing the breaking and rejoining of the phosphodiester backbone of DNA strands during the normal cell cycle.

Your genetic data

SNPs ID	Evidence level	Gene	Your genotype	Efficacy	Dosage	Toxicity
rs712829	★	EGFR	GT	decreased	NA	NA

For a list of references for each variant, please see the freely available VP on the Internet https://www.sustc-genome.org.cn/vp

The description of **rs712829**

Cancer patients with genotype GT may be less likely to respond to topoisomerase I inhibitors compared to patients with genotype GG (based solely on in vitro work). Other genetic and clinical factors may also influence a patients response.

The overview of VP

VP which is developed by He lab in the South University of Science and Technology of China is an online tool that interprets personal genome for the impact of genetic variation on drug response. Base on the carefully selected data from international and authoritative includinig PharmGKB, dbSNP and DrugBank?we can take high-throughput sequencing raw data or microarray SNP genotyping data as inputs, and reports to the users how the variants in their personal genomes impact the response to 193 drugs, including efficacy, dosage and toxicity.