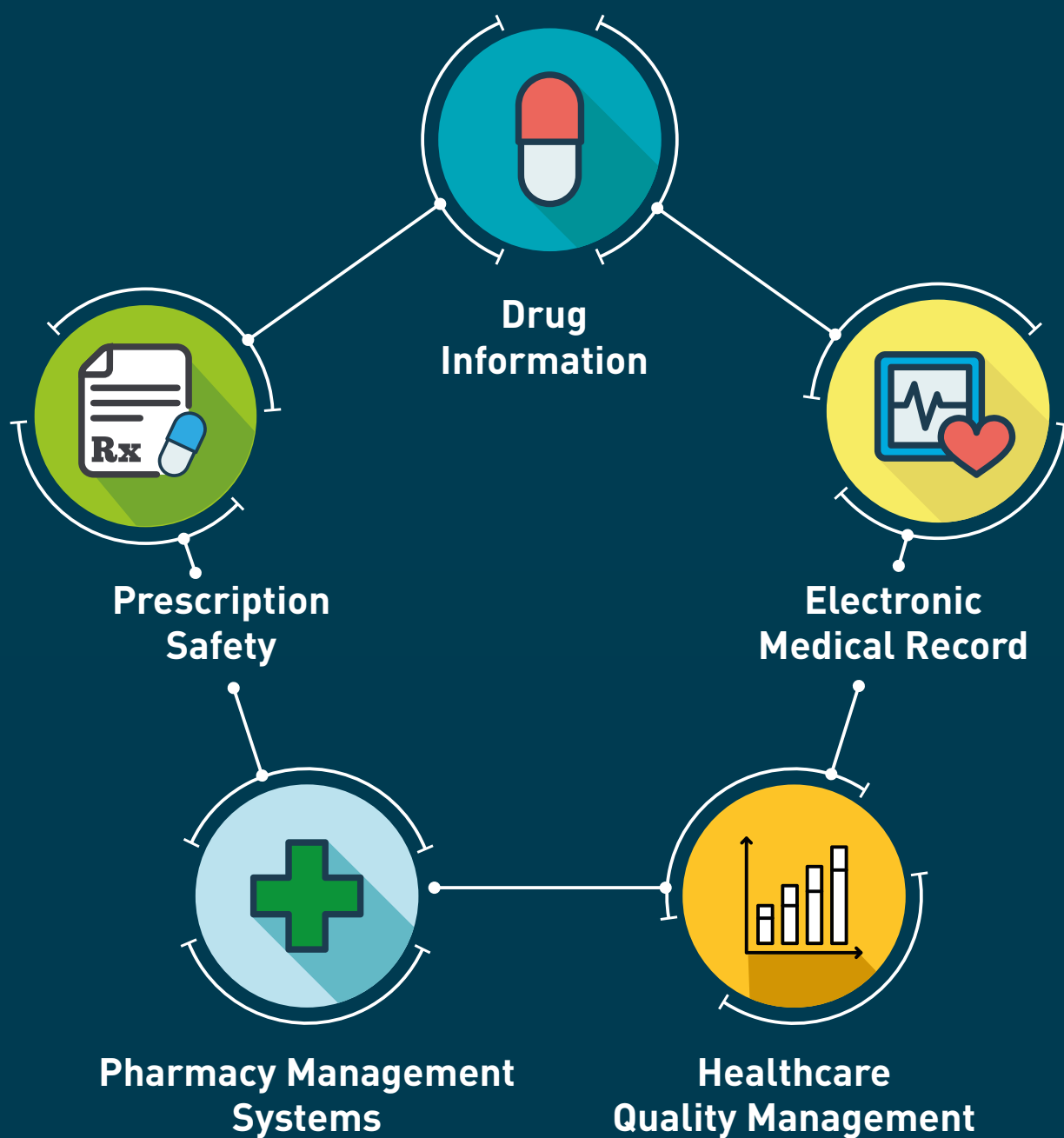




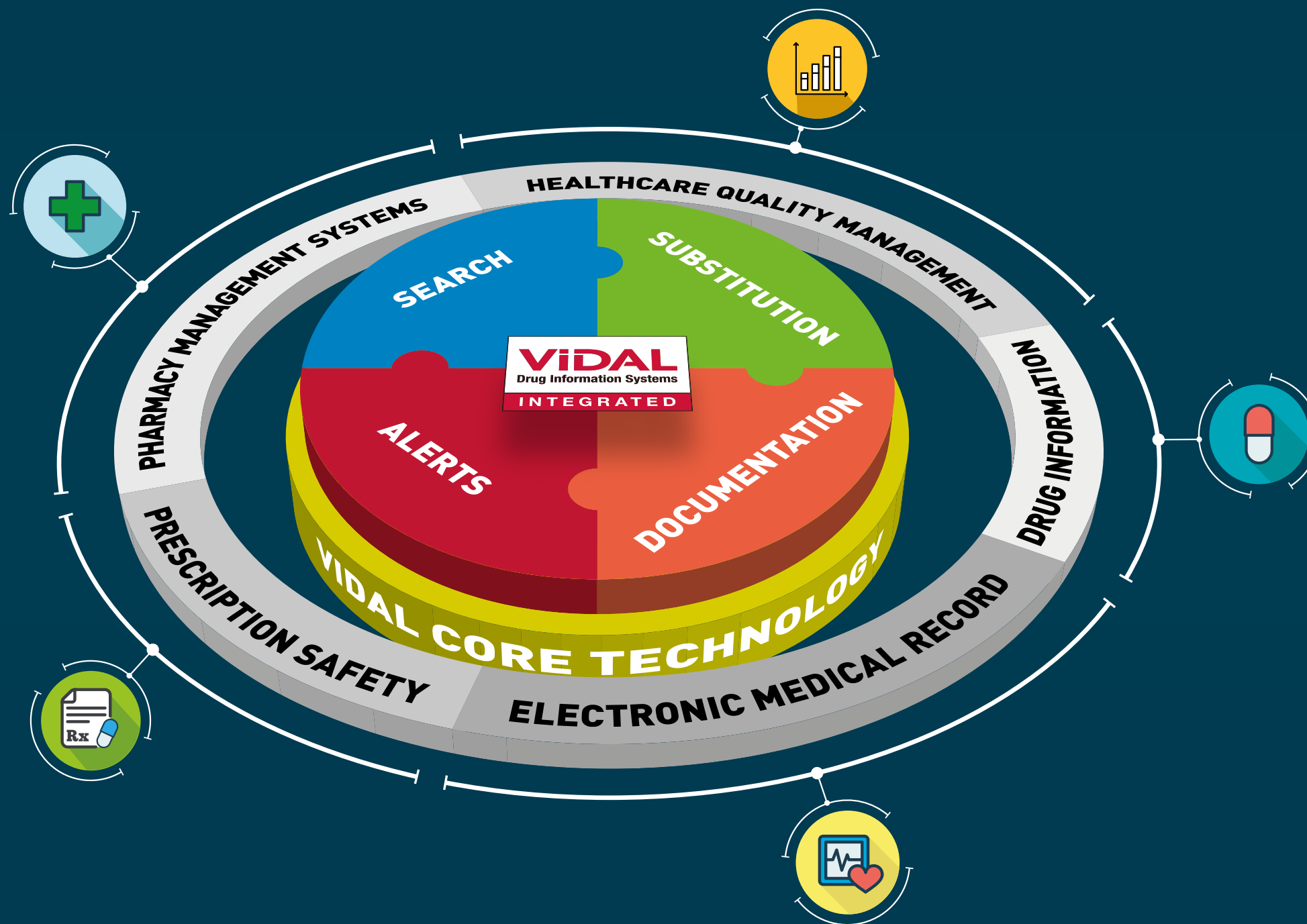
Medical intelligence for better care



# VIDAL DRUG INFORMATION SYSTEMS

**VIDAL INTEGRATED** is the solution that provides access to the entirety of the **VIDAL CORE** modules for all Healthcare Information Systems and ePrescription applications. The extent of available functionalities is based on an innovative API (Application Programming Interface) architecture that covers 4 main domains: Drug search and identification, Drug Safety alerts, Substitution and Documentation.

By means of comprehensive integration expertise, VIDAL supplies its partners with an overarching access to its reference information and Clinical Decision Support Modules, and helps improve the overall prescription safety and optimize medication management cycles.



## VIDAL INTEGRATED key functionalities

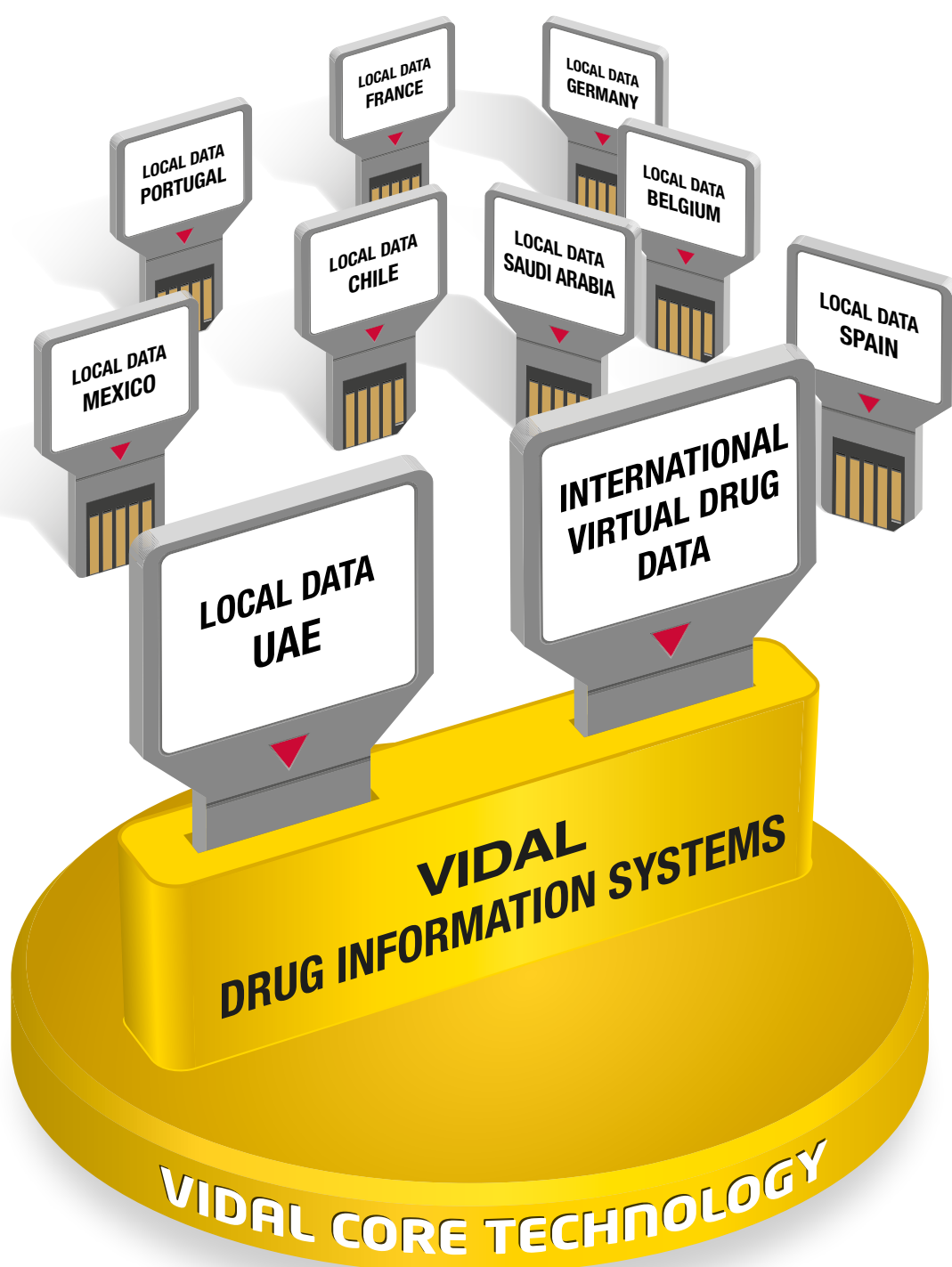
- 1 Access to locally available drugs
- 2 Wide array of Drug-Drug and Drug-Patient Clinical alerts (based on VIDAL Core's Decision Support Modules)
- 3 Reference Documentation (Drug Monographs and structured Drug information)
- 4 Innovative API technology allowing straightforward integration and deployment
- 5 Single interface for several drug databases
- 6 Interoperability with standard terminologies in healthcare (ATC, ICD, SNOMED...)



# VIDAL Core Technology

VIDAL Drug Information Systems are underpinned by an international repository of Virtual Medicinal Products (VMP) linked to a broad semantic network detailing the usage, clinical effects, and potential risks for each drug. The information is highly structured and regularly updated by our team of pharmacists.

In each concerned country, VIDAL closely monitors the official drug lists issued by health authorities and adapts its information to the local needs in order to provide healthcare professionals with a reliable source of information on the drugs that are accessible in their everyday practice.



# Safety alerts functions

## Drug Interactions Module

VIDAL Integrated provides data and alerts on clinically relevant drug-to-drug interactions involving pharmacological or pharmacokinetic mechanisms interactions are described by:

- A risk evaluation based on a 4-level severity scale (Contraindication, Not recommended, Caution, To be taken into account).
- A description of the interaction mechanism.
- Patient monitoring information, if available, with appropriate actions to be taken in response to the alert.



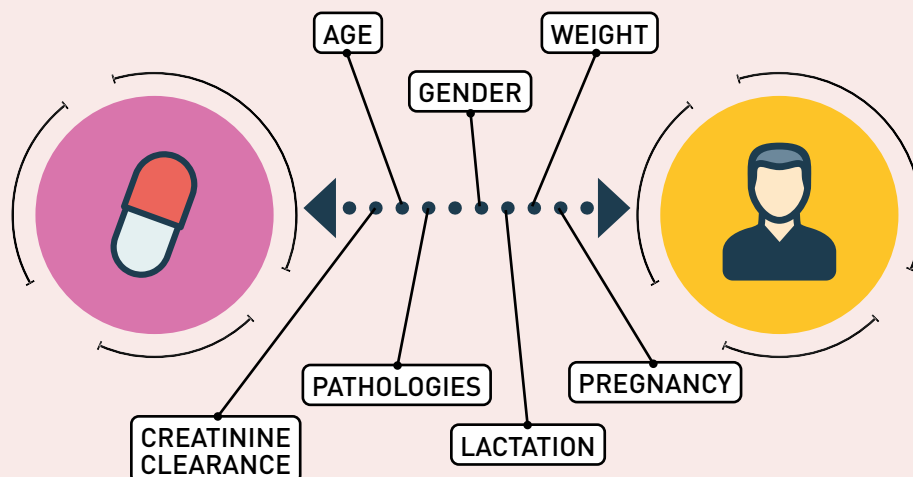
### Risk scale

X	Critical
III	High
II	Moderate
I	Low

## Drug Health Module

The drug health module aims at helping physicians confidently determine what will be a safe and appropriate medication for a patient in relation to his specific medical condition. It includes:

- 7 patient-centric submodules: Drug-Age, Drug-Weight, Drug-Gender, Drug-Pregnancy, Drug-Lactation, Drug-Pathologies, Drug-Renal Failure
- A risk evaluation based on a 3-level severity scale (Absolute contraindication, Relative contraindication, Precaution).



## Drug Dose Module

Checks for over-dosage and under-dosage of drugs, taking the prescribed doses as well as the patient profile (age, weight and gender) into account.

## Drug Allergy Module

Checks the risk of allergic reactions between drugs and patient-known allergens. Cross-sensitivity reactions are included in this detection.

## Duplicate Therapy Module

Checks for redundancies in the prescription in order to prevent any over dosage and adverse toxicity events. This can either be due to drugs belonging to the same therapeutic class or composed of similar ingredients.

## Drug Warnings Module

Provides guidance on patient monitoring or highlights specific risks linked to drug prescription. These would entail taking into account and monitoring biological parameters throughout the treatment in order to reduce morbidity and harm to patients.

## Search functions

API access to the whole graph of drug information facilitates the implementation of a large variety of search functionalities. Criteria that may be used to lookup branded or generic drugs include:

- Product name
- Ingredient
- Local code
- ATC Classification
- Therapeutic indication

## Substitution functions

Similarly, proposing drug alternatives to the healthcare professional may be based on a variety of strategies, such as:

- Similar product (same ingredient, dosage, form and route of administration)
- ATC classification
- Therapeutic indication

# Documentation functions and structured data

**VIDAL INTEGRATED** provides third-party applications with straight forward access to reference clinical information on drugs, curated by a team of healthcare experts (pharmacists, physicians, pharmacologists) and based on national and international reference sources.

## Product Information (Structured Data)

- Brand name
- Generic name (Virtual Drug name)
- National code
- ATC classification (WHO)
- Active ingredient(s)
- Indications
- Route(s) of administration
- Pharmaceutical form
- Contraindications
- Allergies
- Precautions
- Adverse effects
- Drug interactions
- Packaging information
- Warnings (drug-food interactions, specific risks...)
- Cautions for usage
- Performance-enhancing information

Hyzaar 100 mg/25 mg

Losartan potassium 100 mg + Hydrochlorothiazide 25 mg ; oral use ; tablet

**Overview**

**Drug details**

Active Ingredients	Strength	Form	Route
hydrochlorothiazide	25 mg	tablet	oral use
losartan potassium	100 mg	tablet	oral use

**ATC Class**

Code	Name
C09DA01	LOSARTAN AND DIURETICS

**Drug equivalents (same form, route and active ingredients)**

FORTZAAR film-coated tablet 100 mg+25 mg
LOSAKAL PLUS DS film-coated tablet 25 mg + 100 mg
ZARGO HT film-coated tablet 25 mg + 100 mg

[See foreign brands matching the ATC Class >>](#)

**Reference documentation**

[Printable monograph for: hydrochlorothiazide 25 mg + losartan potassium 100 mg, oral use, tablet](#)

## Generic monograph

Including:

- Generic Name
- Drug classification
- Administration methods
- Dosage and indications
- Drug interactions
- Reproductive health warnings
- Mechanism of action
- Adverse effects
- Food interactions
- Drug Monitoring
- Contraindications & Precautions
- Special safety measures
- ...

Losartan potassium 100 mg + Hydrochlorothiazide 25 mg ; oral use ; tablet

**Drug interactions**

**Severity: Contraindication**

Angiotensin II receptor antagonists + Aliskiren	
<b>Risks and Mechanisms</b>	Risk of hyperkalemia, of renal failure, of increased cardiovascular morbidity mortality.
<b>Course of Action</b>	Contraindication in diabetic patient or in the event of renal failure. Not recommended in the other cases.

**Severity: Combination not recommended**

Angiotensin II receptor antagonists + Lithium	
<b>Risks and Mechanisms</b>	Increased lithium may reach toxic values (reduced renal excretion of lithium).
<b>Course of Action</b>	If the use of an angiotensin II antagonist is essential, strictly monitor lithium and dose adjustment.
Angiotensin II receptor antagonists + Potassium	
<b>Risks and Mechanisms</b>	hyperkalemia (potentially lethal) particularly during renal failure (addition of hyperkalemic effects).
<b>Course of Action</b>	Avoid this association except if there is prior hypokalemia.
Angiotensin II receptor antagonists + Potassium-sparing diuretics (alone or in association) except spironolactone and eplerenone	
<b>Risks and Mechanisms</b>	Except for eplerenone and for spironolactone at doses between 12.5 mg and 50 mg/day in the treatment of heart failure and also in the event of hypokalemia: risk of hyperkalemia (potentially lethal) particularly during renal failure (addition of hyperkalemic effects).



# Content

---

VIDAL drug databases and Clinical Decision Support Modules are elaborated from official drug lists and internationally recognized official sources (EMA, FDA, ANSM,...) by a multinational team of health experts based in Europe (pharmacists, pharmacologists, physicians, scientists, database architects, medical informatics specialists).

VIDAL Drug Information Systems are used in numerous healthcare facilities in Europe, Latin America, the Middle-East and Africa, and are present in over 95% of hospitals in France. As the European leader in the field of drug information, VIDAL is also involved in many international health projects such as EPSOS (European Patients - Smart Open Services), PSIP (Patient Safety through Intelligent Procedures in medication) and UNICOM (Up-scaling the global univocal identification of medicines).



## Technical details

Technology: REST WebServices (online & offline)  
Platforms: Windows, Linux.

## Integration Support

Our support team provides technical assistance and functional advice to our partners all along the integration process.

## About VIDAL Group:

The activity of VIDAL Group is entirely devoted to information on medication and health products, clinical decision support and prescription safety solutions, with a goal to participate in the continuous improvement of medical practice. VIDAL disseminates its data and services through all types of digital platforms used by healthcare professionals (medical software solutions, web, mobile).

Relying on a multilingual knowledge base, with teams in France, Germany and Spain, VIDAL Group is a major player in the field of medical information systems, providing its solutions in 30 countries. In France, its solutions are used by more than 450,000 healthcare professionals, including 180,000 physicians; VIDAL was selected as one of the first 10 laureates of the national Health Data Hub call for projects and contributes to many innovative projects aiming to mitigate risks related to the use of health products.

Since 2016, VIDAL Group is part of the M3 group, a global player in digital health and leader in Asia and Japan. M3 is listed on the Tokyo Stock Exchange (2413.T).

## CONTACT

Charles METIVIER  
EMEA Product Manager  
Tel France: +33 173281213  
Email: [charles.metivier@vidal.fr](mailto:charles.metivier@vidal.fr)

