



SGTi Allergy Screen

Name _____

Age _____ Lab ID _____

Date _____

E-mail _____

SGTi Allergy Screen

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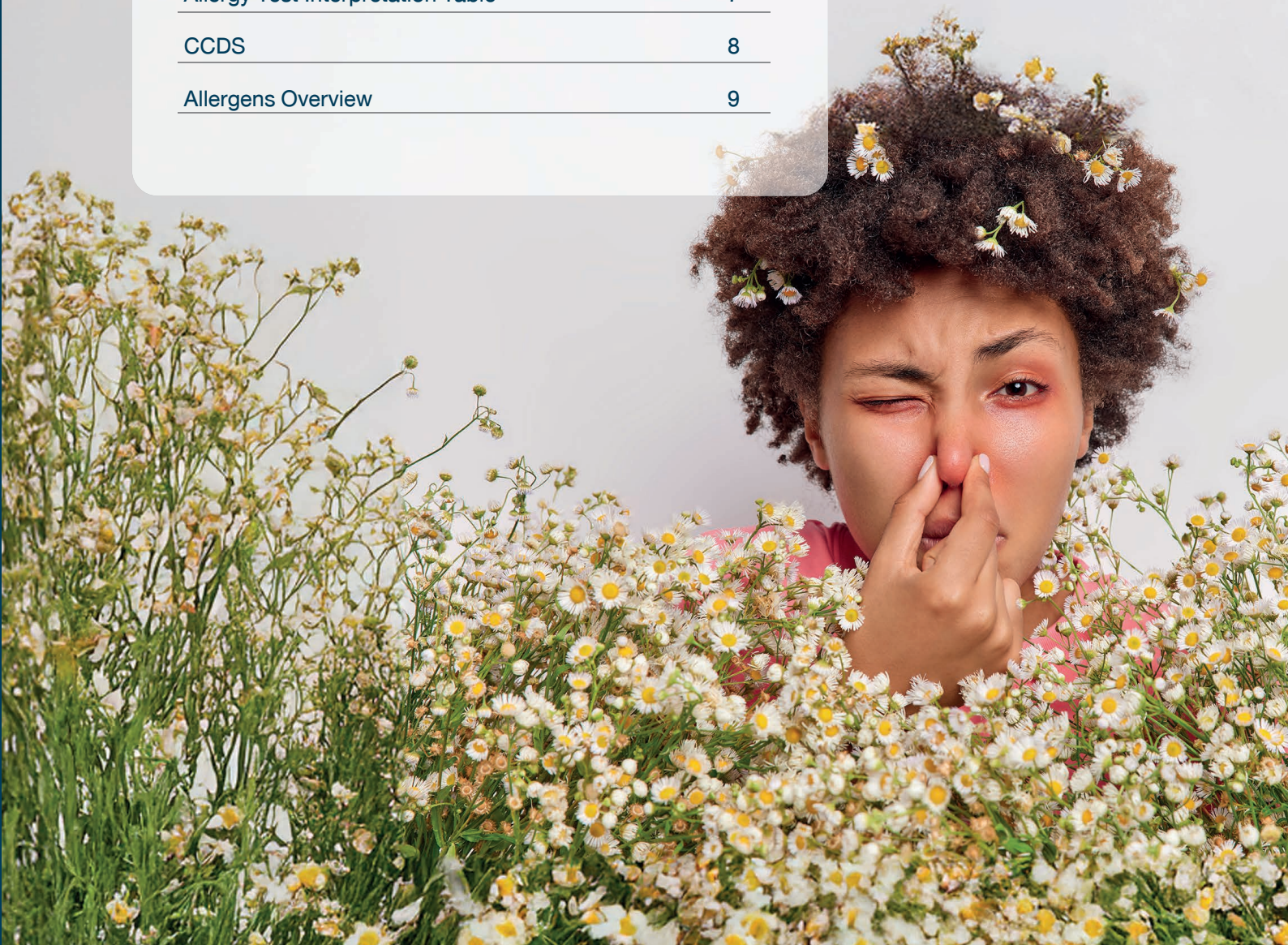
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What is an Allergy?

Your immune system works to protect you by fighting off harmful germs like bacteria and viruses. But with allergies, your body mistakenly reacts to harmless substances, such as pollen or certain foods, as if they were dangerous. These harmless substances are called allergens.

When you're allergic to something, your body produces special antibodies called **IgE** antibodies. These **antibodies** cause the release of chemicals like **histamine** into your body, which leads to symptoms such as itching, sneezing, or breathing difficulties. Depending on where the allergic reaction happens, you might feel it in your skin (like hives or rashes), your nose (like a stuffy nose), or even your chest (like asthma symptoms).

In some severe cases, allergies can cause a serious reaction called **anaphylactic shock**, which requires immediate medical attention.



Allergies are very common in Thailand.



Studies show that between **10% and 50%** of people here have allergies.

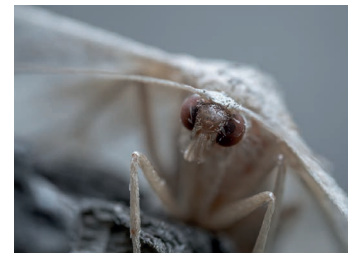
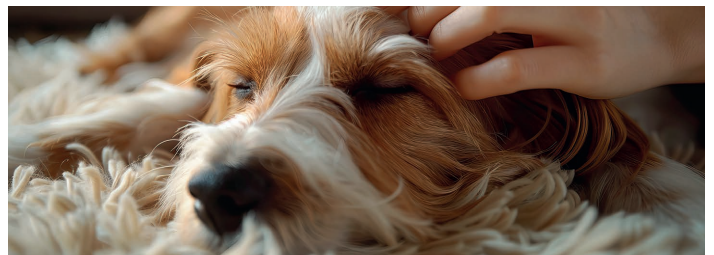
Allergic rhinitis (a condition that causes stuffy, itchy noses) is the most common, affecting nearly half of the population. Other common allergies include **asthma** and **atopic dermatitis** (an allergic skin rash). Over the past 20 years, the number of people with allergies has increased. In fact, in the United States, allergies are one of the top six chronic health problems.

What are Allergens?

Allergens are substances that cause allergic reactions. They can come from foods or from the environment. You might encounter allergens by eating, breathing them in, getting them on your skin, or through injections.

Environmental allergens include things like dust mites, pet fur, cockroaches, mold, pollen from trees or flowers, and even smoke or dust in the air.

Food allergens include things like seafood, dairy, nuts, and eggs. When people with allergies to these foods eat them, their immune systems react, causing symptoms.



Common Food Allergens:

- Dairy/Eggs
- Nuts
- Fish/Shellfish
- Fruits/Vegetables
- Meat
- Others

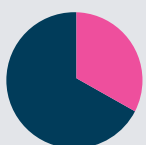
Environmental Allergens:

- Dust mites
- Animal fur
- Animal hair and dander
- Insects
- Mold
- Plants



Acute allergy symptoms
(IgE-mediated):

Appear within minutes.



Chronic allergy symptoms
(Non-IgE-mediated):

Appear 3–4 hours after exposure or even later.

Allergic diseases can be categorized into various types, broadly divided into IgE-mediated and Non-IgE-mediated allergies, or acute (short-term) and chronic (long-term) forms.

The timing of symptom onset differs between these types. Acute allergic reactions are triggered by IgE antibodies and occur within minutes after exposure to the allergen. In contrast, chronic reactions are caused by mechanisms other than IgE and may take 3–4 hours or longer after exposure to manifest symptoms.



Examples of Allergic Diseases:

- Asthma
- Severe Allergic Reaction (Anaphylaxis)
- Eczema (Atopic Dermatitis)
- Contact Dermatitis
- Hives (Urticaria)
- Allergic Conjunctivitis
- Drug Allergy, Insect Allergy, Latex Allergy
- Food Allergy
- Allergic Rhinitis or Nasal Congestion
- Treatment for Allergies
- Antihistamines

Common Allergens:



- Dust mites
- Food (egg whites, milk, wheat, soy, seafood, nuts)
- Latex
- Pollen or Grass
- Animal dander (cats, dogs, horses)
- Bee and wasp stings
- Cockroaches
- Medications
- Mold

Allergic Diseases Affect Various Systems



Respiratory System

Symptoms include runny nose, sneezing, itchy nose, and nasal congestion, commonly referred to as allergic rhinitis or “hay fever.” Severe cases may lead to asthma, with symptoms such as coughing, chest tightness, and shortness of breath.



Eyes

Symptoms include itching or irritation, burning sensation, redness, swollen eyelids, excessive tearing, sensitivity to light, and a feeling of something stuck in the eyes.



Skin

Allergic reactions may appear as hives, **eczema** (atopic dermatitis), or **contact dermatitis**.



Gastrointestinal System

Causing symptoms such as abdominal pain, vomiting, and diarrhea with mucus or blood.

Having an allergic disease may increase the risk of developing complications, such as.



Severe Allergic Reactions (Anaphylaxis)

Allergic conditions can sometimes escalate, leading to severe reactions such as widespread hives, persistent itching, pale or flushed skin, swollen throat, chest tightness, breathing difficulties, vomiting, diarrhea, and in severe cases, anaphylactic shock. These symptoms are commonly seen in individuals with food allergies, insect allergies, or drug allergies. Immediate medical attention is required.



Asthma

People with allergies are more prone to asthma, with symptoms like difficulty breathing, wheezing, persistent cough, chest tightness, and discomfort. Asthma may also interfere with sleep due to irregular breathing patterns, often causing nighttime awakenings. Asthma occurs when allergens reach the lungs, causing inflammation in the respiratory tract, particularly bronchitis. It is common among individuals with allergic rhinitis, a respiratory-related allergy.



Sinusitis

Frequently found in individuals with allergic rhinitis, symptoms include headaches, especially around the forehead, eyes, eyebrows, and sides of the nose, nasal congestion, thick green mucus, coughing, fever, and difficulty breathing.

Additionally, allergy sufferers may experience other complications such as skin infections, **eczema**, middle ear infections, or lung infections.



Recognizing Allergy Symptoms When to Seek Medical Advice

If you experience the symptoms mentioned earlier, it's important to consult a doctor. The doctor will take a detailed medical history and perform a physical examination. Other tests may be necessary, such as a lung function test if asthma is suspected, or a skin prick test to identify the allergens, with results available within 15 minutes. In cases of allergic rhinitis, the doctor might examine nasal cells for more information.

Managing Allergies:

Avoid Allergens:

Minimize your risk by avoiding known allergens, such as:

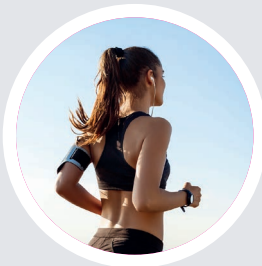
- Do not keep pets with fur in the house, especially in the bedroom.
- Avoid using carpets in the bedroom, and regularly clean the house to keep it free of dust.
- Avoid having shelves or books in the bedroom.
- Avoid smoking.
- Clean up food scraps to prevent cockroach infestations.



Strengthen Your Immune System:

Maintain a strong immune system by:

- Eating a healthy and balanced diet.
- Exercising regularly.
- Having regular health check-ups.



Keep a Daily Record of Your Activities and Food Intake

Keeping track of your daily activities and the food you eat can help trace back potential allergens if an allergic reaction occurs. Always take your medications as prescribed by your doctor without stopping them on your own, as this could lead to side effects, drug resistance, or worsening allergic symptoms.

For patients with severe allergies, it's important to inform close contacts about your condition and wear equipment that communicates your allergy status in case of emergencies where you're unable to speak. In some cases, doctors may prescribe epinephrine for self-injection in case of severe reactions. Always have emergency contact numbers ready for urgent situations.

****Interpretation of Allergy Results Using the Specific Blood IgE Test****

Class	Concentration of Blood IgE (IU/ ML)	Interpretation
0	0.00 - 0.34	No specific IgE antibodies to allergens detected.
1	0.35 - 0.69	Low levels of specific IgE antibodies to allergens detected. Clinical symptoms are rarely observed.
2	0.70 - 3.49	Low levels of specific IgE antibodies to allergens detected. Clinical symptoms may occur.
3	3.50 - 17.49	Significant levels of specific IgE antibodies to allergens detected. Clinical symptoms are usually present.
4	17.50 - 49.99	Moderately high levels of specific IgE antibodies to allergens detected. Most patients have clinical symptoms.
5	50.00 - 100.00	High levels of specific IgE antibodies to allergens detected.
6	> 100	Very high levels of specific IgE antibodies to allergens detected.

Patient Guidelines After Receiving IgE (SGTi Allergy Screen) Test Results

Generally, if IgE antibodies are detected from Class 1 and above, the test result is considered positive. However, the presence of clinical symptoms depends on several factors, such as age, gender, existing health conditions, or medication use.

- Avoid contact with the identified allergen, whether through ingestion, inhalation, or exposure to environments where the allergen may be present.
- Follow the doctor's recommendations for medication strictly to relieve symptoms.
- General Recommendations for Positive Test Results In cases of severe allergies, immunotherapy (allergy shots) may be considered. This involves gradually introducing small amounts of the allergen to help the body develop tolerance over time. The effectiveness of treatment varies depending on the type of allergen, so treatment must be closely monitored by a physician.



CCDS

(Cross-reactive carbohydrate determinants)

CCDs are glycan chains found in glycoproteins extracted from plants or animals, such as trees, weeds, grass pollen, vegetables, fruits, seeds, nuts, latex, insect stings, and parasitic worms. Stimulation of the body with these CCDs typically yields negative results in skin tests, and these substances can lead to false-positive outcomes.

Most proteins across all species are glycoproteins and are often found on the outer surface of cells. Glycoproteins consist of proteins or peptides and glycan chains, referred to as carbohydrates. These groups are composed of different sugars (such as mannose, galactose, N-acetylglucosamine, fucose, and xylose) and are linked to proteins via amino groups (N-glycan) or hydroxyl groups (O-glycan). The N-glycans from plants and insects have slightly different structures from those of humans. CCDs can induce the body to produce immunoglobulin E (IgE), which cross-reacts with glycoproteins from plants and insects.

Approximately **20%** of patients with allergies have specific IgE and IgG antibodies against glycan. Although CCDs do not cause clinical symptoms, their presence must be considered in allergy diagnosis, as they may lead to misleading results or exaggerated positive outcomes. These can be categorized into two scenarios:

Scenario 1

The patient's blood has anti-CCD specific IgEs but lacks IgE specific to the protein component of the allergen.

Scenario 2

The IgE in the patient's blood is specific to both the protein component and the CCD.

Therefore, in specific IgE testing, there should be brands that indicate whether the patient's serum contains anti-CCD specific IgEs. This information aids in determining the type of allergen. If the CCD values read are class 2 or higher, it is possible that the test results may be interfered with by those anti-CCD specific IgEs. In such cases, the physician must conduct a more thorough patient history.

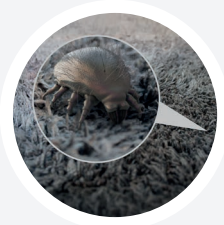




ALLERGENS OVERVIEW



Mites (ตระกูลไร)



House dust mite (Dp)
ไรฝุ่น
(d1)



House dust mite (Df)
ไรฝุ่น
(d2)

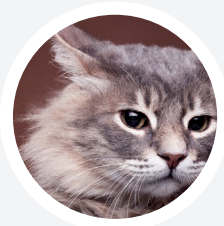


Acarus siro
ไรแป้ง พบในพืช
(d70)



Storage mite
(Tyrophagus
putrescentiae)
ไรดิน
(d72)

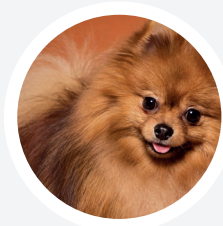
Epidermal & Animal Proteins (ขน, ผิวหนังสัตว์)



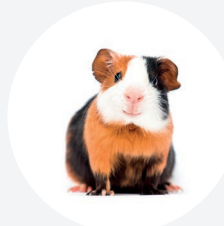
Cat Epithelium
ขน, ผิวหนัง แมว
(e1)



Horse Epithelium
ขน, ผิวหนัง ม้า
(e3)



Dog Epithelium /
Dander
ขน, ผิวหนัง สุนัข
(e5)



Guinea pig
ขน, ผิวหนัง หนูตะเภา
(e6)



Mouse Epithelium
ขน, ผิวหนัง หนู
(e71)



Rabbit Epithelium
ขน, ผิวหนัง กระต่าย
(e82)



Hamster Epithelium
ขน, ผิวหนัง แฮมสเตอร์
(e84)

Grass Pollens (ละอองเกสร)



Sweet Vernal Grass
หญ้าหวานเวอนัล
(g1)



Bermuda Grass
หญ้าแพรก
(g2)



Orchard Grass
หญ้าออร์ชาร์ด
(g3)



Timothy Grass
หญ้าทิโมธี
(g6)



Redtop, Bent Grass
หญ้าเบ็นท์กลาส
(g9)



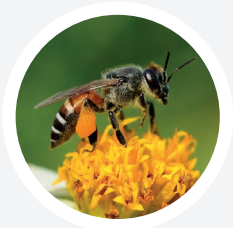
Rye
หญ้าไรย์
(g12)

Dust (ไรฝุ่น)



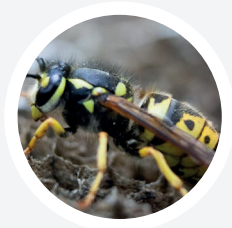
House dust
ไรฝุ่นบ้าน
(h1)

Bee venom (ภูมิแพ้จากผึ้ง)



Honey Bee

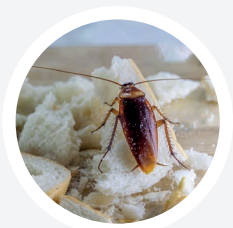
ผึ้ง
(i1)



Yellow Jacket, Wasp

ตัวต่อ
(i3)

Insects (ภูมิแพ้จากแมลง)



Cockroach

แมลงสาบ
(i6)

Latex (สารก่อภูมิแพ้จากลาเท็กซ์)



Latex

ยางสีขาว คำนํ้านม
จากพืช
(k82)

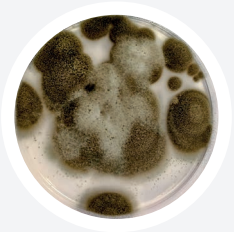
Microorganism (จุลินทรีย์)



Penicillium notatum

A group of green mold typically found around homes, commonly appearing in areas with food waste or decay, and can be found widely.

(m1)



Cladosporium herbarum

A mold commonly found on plant surfaces, animal fur, soil, food, refrigerated environments, and humid areas within homes.

(m2)



Aspergillus fumigatus

A type of black mold found on decaying food and bread left overnight.

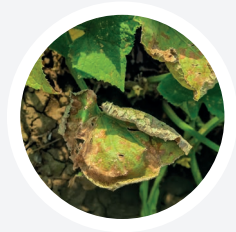
(m3)



Candida albicans

A fungus found in the human body and humid, discolored environments, such as underarms, groin, and skin folds.

(m5)



Alternaria Alternata

A fungus found on soil, leaves, and decaying plant matter.

(m6)

Tree Pollens (เกสรจากต้นไม้)



Alder

ต้นเอลเดอร์
(t2)



Birch

ต้นเบิร์ช
(t3)



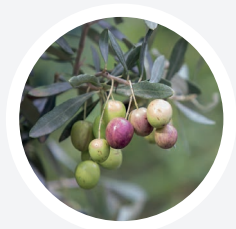
Hazel

ต้นฮาเซล
(t4)



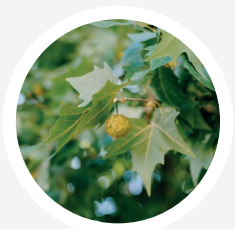
Oak White

ต้นโอ๊ค
(t7)



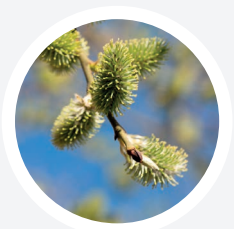
Olive Tree

ต้นมะกอก
(t9)



Sycamore

ต้นซีกามอร์
(t11)



Goat Willow

ต้นโกทวิลโลว์
(t12)



Cottonwood

ต้นฝ้าย
(t14)



Ash Tree

ต้นแอช
(t15)



Pine

ต้นสน
(t16)

Tree Pollens (เกสรจากต้นไม้)



Japanese Cedar

ต้นสนซีดาร์ญี่ปุ่น
(t17)



Acacia

ต้นอคาเซีย
(t19)

Weed Pollens (ภูมิแพ้จากวัชพืช)



Cypress

ต้นสนไซเปรส
(t222)



Ragweed, Common

หญ้าแเร็กวีด
(w1)



Mugwort

จิงจูฉ่าย/
สกุลโกฐจุฬาลัมพา
(w6)



Oxeye Daisy

ดอกอ้อกซาย เดซี่
(w7)



Dandelion

ดอกแดนดิไลออน
(ฟันสิงโต)
(w8)



English Plantain

ต้นอิงลิช แพลนเทน
(w9)



Russian Thistle

ดอกริสเชิลริสเซีย
(w11)



Goldenrod

ต้นสกุลดอกสร้อยทอง
(w12)



Pigweed

ต้นพิทวิด (ผักโขม)
(w14)



Japanese Hop

ต้นเจแปนีสฮอป
(w22)

Egg (ไข่)



Egg White

ไข่ขาว
(f1)

Milk & Constituents (นมและส่วนประกอบ)



Milk

นม
(f2)



Cheddar Cheese

เชดดาร์ชีส
(f81)

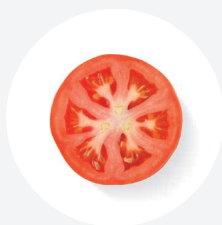
Legumes, Vegetables, Grains (ผลิตภัณฑ์จากตระกูลถั่ว ผัก ธัญพืช)



Soy Bean
ถั่วเหลือง
(f14)



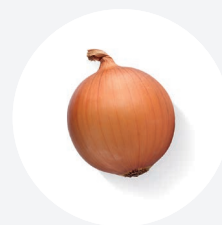
Carrot
แครอท
(f31)



Tomato
มะเขือเทศ
(f25)



Garlic
กระเทียม
(f47)



Onion
หัวหอม
(f48)



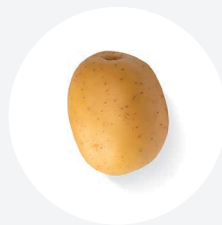
Wheat
ข้าวสาลี
(f4)



Rice
ข้าว
(f9)



Maize
ข้าวโพด
(f8)



Potato
มันฝรั่ง
(f35)



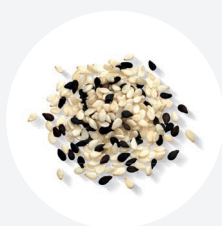
Barley
บาร์เลย์
(f6)



Cucumber
แตงกวา
(f244)



Buckwheat
บัควีท
(ธัญพืชที่ปราศจากกลูเตน)
(f11)



Sesame
งา
(f10)



Celery
คื่นฉ่ายฝรั่ง
(f85)

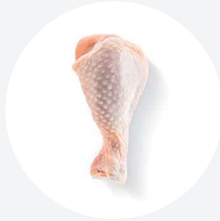
Meat (ผลิตภัณฑ์จากเนื้อสัตว์)



Pork
เนื้อหมู
(f26)



Beef
เนื้อวัว
(f27)

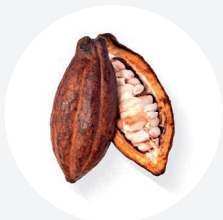


Chicken
เนื้อไก่
(f83)



Lamb
เนื้อแกะ
(f88)

Seeds & Nuts (01) (ผลิตภัณฑ์จากตระกูลถั่ว)



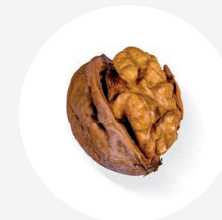
Cacao
โกโก้
(f93)



Peanut
ถั่วลิสง
(f13)



Almond
เมล็ดอัลมอนด์
(f20)



Walnut
ถั่ววอลนัท
(f256)



Hazelnut
ถั่วฮาเซลนัท
(f17)

Yeast (ยีสต์)



Yeast, Baker

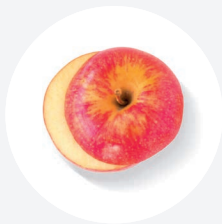
ยีสต์ (สำหรับทำขนมปัง)
(f45)

Fruits (ผลิตภัณฑ์จากผลไม้)



Peach

ลูกพีช
(f95)



Apple

แอปเปิ้ล
(f49)



Strawberry

สตรอเบอร์รี่
(f44)



Orange

ส้ม
(f33)



Mango

มะม่วง
(f91)



Kiwi

กีวี่
(f84)



Banana

กล้วย
(f92)

Fish & Mollusks (1) (ผลิตภัณฑ์จากปลาและอาหารทะเลที่มีเปลือก)

**Shrimp**

กุ้ง
(f24)

**Lobster**

ล็อบสเตอร์หรือกุ้งมังกร
(f80)

**Scallop**

หอยเชลล์
(f338)

**Cod Fish**

ปลาคอด
(f3)

**Crab**

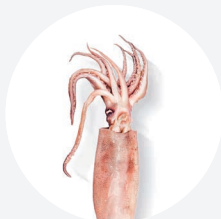
ปู
(f23)

**Salmon**

ปลาแซลมอน
(f41)

**Tuna**

ปลาทูน่า
(f40)

**Squid**

ปลาหมึก
(f258)

**Blue Mussle**

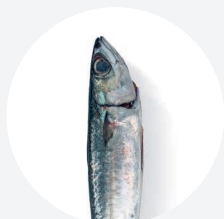
หอยแมลงภู่
(f37)

**Oyster**

หอยนางรม
(f290)

**Clam**

หอยกาบ
(f207)

**Mackerel**

ปลาแมคเคอเรล
(f206)

**Anchovy**

ปลาแอนโชวี
(f313)

Seeds & Nuts (2) (ผลิตภัณฑ์จากตระกูลถั่ว)



Pine Nut
ถั่วเบ็ดสน
(f253)



Sunflower Seed
เมล็ดทานตะวัน
(k84)

Fish & Mollusks (2) (ผลิตภัณฑ์จากปลาและอาหารทะเลที่มีเปลือก)



Eel
ปลาไหล
(f264)



Plaice
ปลาตาเดียว
(f254)



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