ค่าบริการทดสอบ
Price list

1. NUTRITIVE VALUES

Analysis	Test Methods	Test duration (days)	Service cost (Baht)
1.1 Common nutrients:			
Energy/Available Carbohydrate (include results of protein, fat, ash, moisture and dietary fiber)	By calculation	15	6,300
Energy/Total Carbohydrate (include results of protein, fat, ash and moisture)	By calculation	15	2,300
Energy (bomb calorimeter)	ASTM Method D 2015-77	10	1,200
Moisture	AOAC (2023) 927.05 (Vacuum oven, dried milk), 990.19 (Hot air oven, milk), 925.10 (Hot air oven, flour), 925.45 (Use acid-washed sand, Vacuum oven), 931.04 (Hot air oven)	10	400
Total solid	AOAC (2023) 990.19 (Hot air oven, milk)	10	400
Protein/Nitrogen	AOAC (2023) 991.20 (Kjeldahl), 992.23 (Combustion)	10	600
Real protein	In-house method based on AOAC (2023) 991.20 (Kjeldahl)	10	800
Fat/Total lipid	AOAC (2023) 932.06 (Alkali digest, milk), 989.05 (Alkali digest, dried milk), 922.06 (Acid digest, flour)	10	800
Ash	AOAC (2023) 930.30 (Dry ashing, dried milk), 945.46 (Dry ashing, milk)	10	500
Milk solid	By calculation (100-Moisture-Sucrose), In-house method based on AOAC (2023) 990.21, 980.13	15	2,400
Milk solid not fat	By calculation (100-Moisture-Fat-Sucrose), In-house method based on AOAC (2023) 990.21	10	3,200
Solids-not-fat in Milk	By calculation (100-Moisture-Fat), In-house method based on AOAC (2023) 990.21	10	1,200
Dietary fiber	AOAC (2023) 985.29 (Enzyme Gravimetric)	15	4,000
Insoluble dietary fiber	AOAC (2023) 991.42 (Enzyme Gravimetric)	15	4,000
Soluble dietary fiber	AOAC (2023) 993.19 (Enzyme Gravimetric)	15	2,000
Total sugar	AOAC (2023) 980.13 (HPLC)	10	2,000
Glucose[1]	AOAC (2023) 980.13 (HPLC)	10	3,000
Fructose[1]	AOAC (2023) 980.13 (HPLC)	10	3,000
Sucrose[1]	AOAC (2023) 980.13 (HPLC)	10	3,000
Lactose[1]	AOAC (2023) 980.13 (HPLC)	10	3,000
Sorbitol[1]	AOAC (2023) 980.13 (HPLC)	10	3,000
Maltose[1]	AOAC (2023) 980.13 (HPLC)	10	3,000
Glucose, Fructose, Sucrose	AOAC (2023) 980.13 (HPLC)	10	3,000
Isomaltulose (Palatinose)	In-house method based on AOAC (2023) 980.13 (HPLC)	10	3,000

[1] *Additional sugar in the same sample costs 1,000 baht each*

Analysis	Test Methods	Test duration (days)	Service cost (Baht)
1.2 Vitamins:			
Vitamin A	In-house method based on Kangsadalampai K., and Sungpuag P. 1984 (HPLC)	10	2,000
β-carotene	In-house method based on Speek AJ, et al. Food Chem. 1986 (HPLC)	10	2,000
Vitamin D (D3)	AOAC (2023) 995.05 (HPLC)	10	4,000
Vitamin D (D3+D2)	AOAC (2023) 995.05 (HPLC)	10	7,000
Vitamin E	In-house method based on Speek AJ, et al. J Food Sci 1985 (HPLC)	10	2,000
Vitamin C	Odriozola-Serrano L, et al. Food Chem. 2007 (HPLC)	10	1,500
Thiamin (B_1)	In-house method based on AOAC (2023) 942.23 (HPLC)	10	1,500
Riboflavin (B_2)	In-house method based on AOAC (2023) 970.65 (HPLC)	10	1,300
Niacin (B_3)	In house method based on AOAC (2023) 961.14 (HPLC)	10	2,000
Vitamin B_6	In house method based on AOAC (2023) 961.15 (Microbiological assay)	15	3,000
Vitamin B_{12}	In house method based on AOAC (2023) 960.46 and 952.20 (Microbiological assay)	15	2,800
Folate (B_9)	In house method based on AOAC (2023) 960.46 and 2004.05 (Microbiological assay)	15	3,500
Pantothenic (B_5)	In house method based on AOAC (2023) 960.46 and 945.74 (Microbiological assay)	15	2,500
Biotin (B_7)	In house method based on AOAC (1980) Microbiological method, 13th Ed., Ch 43.150-43.158 pp. 763- 764 (Microbiological assay)	15	2,200
Trypsin inhibitor activity	AACC (1999) Method 22-40 (Enzymatic and spectrophotometer)	10	2,800
1.3 Minerals:			
Calcium[2]	AOAC (2023) 985.35 (AAS)	10	600
Sodium[2]	AOAC (2023) 985.35 (AAS)	10	500
Potassium[2]	AOAC (2023) 985.35 (AAS)	10	500
Chloride[2]	In house method based on AOAC (2023) 971.27 (Titration)	10	800
Magnesium[2]	AOAC (2023) 985.35 (AAS), 984.27 (ICP-OES)	10	700
Iron[2]	AOAC (2023) 985.35 (AAS), 984.27 (ICP-OES)	10	700
Zinc[2]	AOAC (2023) 985.35 (AAS), 984.27 (ICP-OES)	10	700
Copper[2]	AOAC (2023) 985.35 (AAS), 984.27 (ICP-OES)	10	700

[2]Additional mineral in the same sample costs 500 baht for dry ashing or wet digestion

สถาบันโภชนาการ มหาวิทยาลัยมหิดล

Analysis	Test Methods	Test duration (days)	Service cost (Baht)
1.4 Fatty acids:			
Fatty acids (profile)	In-house method based on AOAC (2023) 963.22, 969.33 (GC)	10	3,000
Fatty acids (profile and quantitative)	In-house method based on AOAC (2023) 963.22, 969.33 (GC)	10	3,800
Trans Fatty acids	In-house method based on AOAC (2023) 963.22, 969.33 (GC)	10	3,500
1.5 Others:			
Cholesterol	AOAC (2023) 994.10 (GC)	10	2,400
Salt (sodium+chloride)	AOAC (2023) 985.35 (AAS), In house method based on AOAC (2023) 971.27 (Titration)	14	1,800
Fructans (Inulin + Fructo-oligosaccharides)	In-house method based on AOAC (2023) 997.08 and J. AOAC Inter, 2000 (Enzymes digest, GC)	20	8,000
Fructo-oligosaccharides (FOS)	In-house method based on AOAC (2023) 997.08 and J. AOAC Inter, 2000 (Enzymes digest, GC)	20	9,000
Antioxidant Activity (ORAC) (Food)	Ou B, et al. J Agric Food Chem, 2001	10	3,500
Antioxidant Activity (ORAC) (Oil)	Prior R.L. et al. J Agric Food Chem, 2003	10	9,000
Antioxidant Activity (FRAP)	Benzie IF & Strain JJ. Anal Biochem 1996	10	2,500
Antioxidant Activity (DPPH)	Katsuke T. J Agric Food Chem 2004	10	2,500
Total Polyphenol	Lu J, et al. J Agric Food Chem 2007	10	2,000
Co-Enzyme Q10	Kettawan A, et al., J Clin Biochem Nutr. 2007	10	3,500
Freeze dry (ต่อน้ำหนักสด)	Freeze dry system	10	2,000
Iodine in salt (mg/kg)	UNICEF, ICCIDD, PAMM, WHO, MI. 1995 (Titration)	10	400
Iodine in food	Dold S, et al., Thyroid 2016 (ICP-MS)	10	3,500
Deuterium (IRMS) in urine or saliva	IAEA Human Health Series No. 13 (2011) by Isotope Ratio Mass Spectrometry (IRMS)	15	3,000
Deuterium (FTIR) in saliva	IAEA Human Health Series No. 7 (2010) by Fourier-transform infrared spectroscopy	10	1,000
Deuterium (^{2}H) & Oxygen (^{18}O) in urine	IAEA human health series, No. 3 (2009) by IRMS	15	5,000
Calculation of Total body water (TBW)	IAEA Human Health Series No. 13 (2011)	15	200
Calculation of Breast milk intake (BM)	IAEA Human Health Series No. 7 (2010)	15	200
Calculation of Total Energy expenditure (TEE)	IAEA human health series, No. 3 (2009) by IRMS	15	400
Calculation of Measurement Uncertainty	Ellison SLR, Williams A. EURACHEM/CITAC, 2012.	10	300

Note: *- This price list can be changed without prior notification*

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