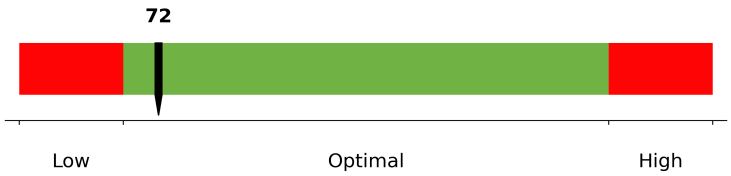
Amino Acid Profile

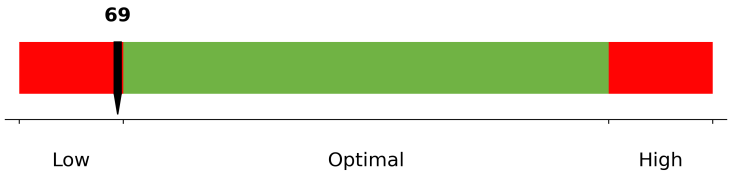
Name:	: John Peter Teasdale	Ref. Number
Lab Number	: R2405300058a	DPS-2405280019
Age	: 35 years	

Essential	Result (µmol/L)	Reference Range
Threonine (THR)	72	**60.0 - 225.0**



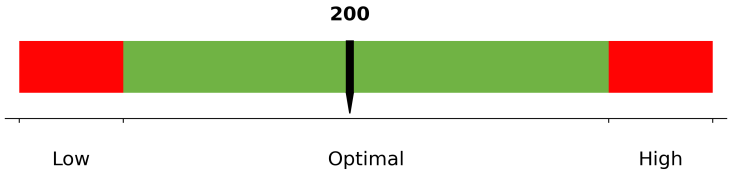
Your Threonine level looks optimal, keep going with balance protein intake. Multi vitamin and mineral supplementation should be beneficial for your health.

Histidine (HIS)	69	**72.0 - 124.0**



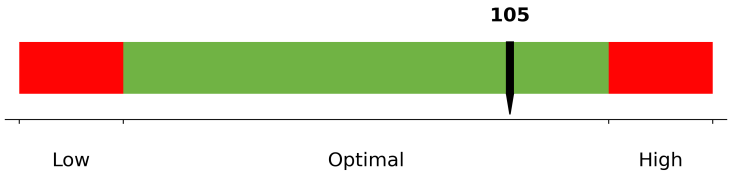
Your Histidine level seems low. Low levels of histidine can be caused by malabsorption or inadequate dietary protein intake. This condition linked to rheumatoid arthritis and anemia caused by a folate shortage. Folate supplementation shoud be beneficial to correct your Histidine level.

Lysine (LYS)	200	**116.0 - 296.0**



Your Lysine level looks optimal, keep going with balance protein intake. Always check your triglyceride level to make sure your health. Vitamin and mineral supplementation should be beneficial to maintain Lysine metabolism in your body.

Arginine (ARG)	105	**15.0 - 128.0**



Your Arginine level looks optimal, keep going with balance protein intake. Arginine adequacy have a good concequency for your cardiovascular health. Mineral supplementation should be beneficial to maintain your Arginine level and urea metabolism.

Name:	: John Peter Teasdale	Ref. Number
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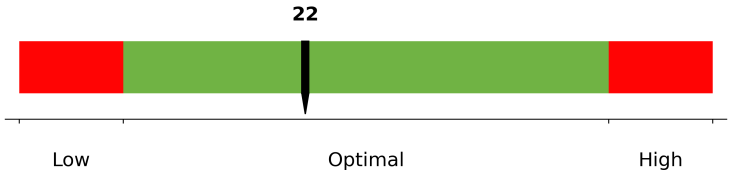
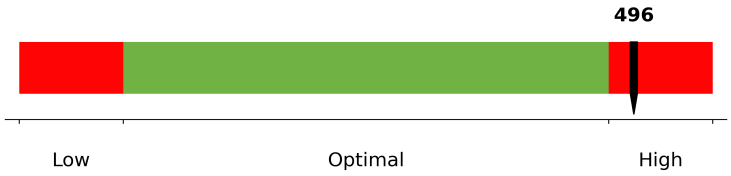
Age	: 35 years	

Essential	Result (µmol/L)	Reference Range
Methionine (MET)	22	**10.0 - 42.0**



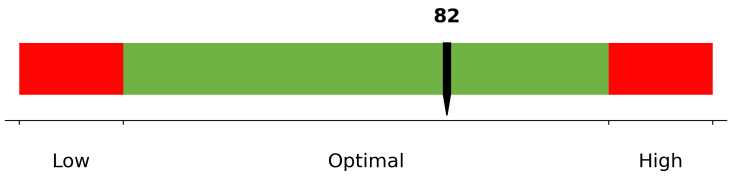
Your Methionine level seems optimal, keep going with balance protein intake. Multi Vitamin and mineral supplementation should be beneficial to maintain your health.

Valine (VAL)	496	**119.0 - 336.0**



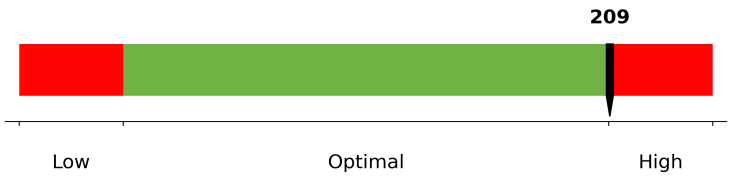
Your valine level seems high. Valine excess caused by inadequate intake of vitamin B6. High level of valine associated with obesity, type 2 diabetes, hepatic disease, hyperinsulinemia, and ketosis . Always check your BMI, waist circumference, and the other diabetes mellitus risk factors.

Isoleucine (ILE)	82	**30.0 - 108.0**



Your Isoleucine level seems optimal, keep going with balance protein intake. Multi vitamin and mineral supplementation should be beneficial.

Leucine (LEU)	209	**72.0 - 201.0**



Your leucine level seems high. Leucine excess caused by inadequate intake of vitamin B6. High level of leucine associated with obesity, type 2 diabetes, hepatic disease, hyperinsulinemia, and ketosis . Always check your BMI, waist circumference, and the other diabetes mellitus risk factors.

Name:	: John Peter Teasdale	Ref. Number
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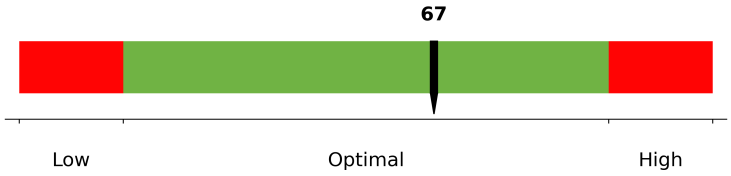
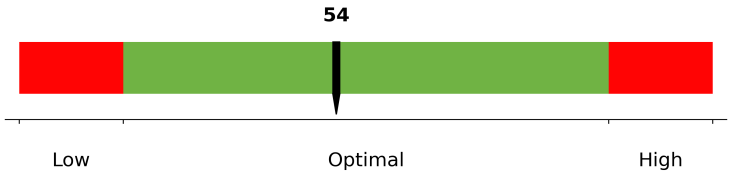
Age	: 35 years	

Essential	Result (µmol/L)	Reference Range
Phenylalanine (PHE)	67	**35.0 - 85.0**



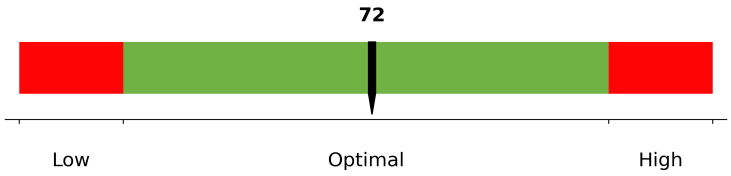
Your Phenylalanine seems optimal, keep going with balance protein intake. Multi vitamin and mineral supplementation should be beneficial.

Tryptophan (TRP)	54	**23.5 - 93.0**



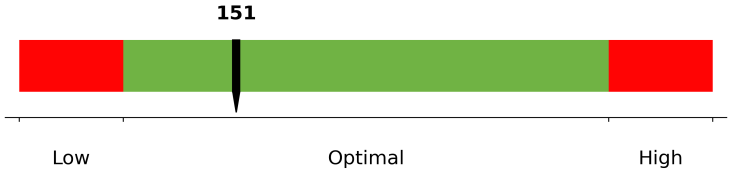
Your Tryptophan level seems optimal, keep going with balance protein intake. Multi vitamin and mineral supplementation should be beneficial.

Non-Essential	Result (µmol/L)	Reference Range
Glutamic Acid (GLU)	72	**10.0 - 131.0**



Your Glutamic Acid level seems optimal, keep going with balance protein intake. Multi vitamin supplementation should be beneficial.

Proline (PRO)	151	**97.0 - 329.0**



Your Proline level seems optimal, keep going with balance protein intake. Multi vitamin supplementation should be beneficial.

Name:	: John Peter Teasdale	Ref. Number
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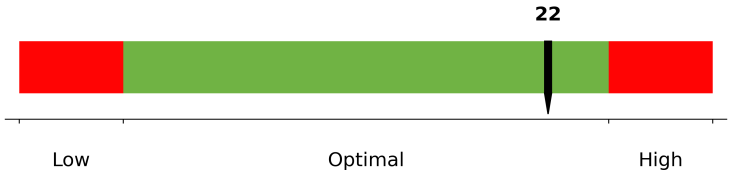
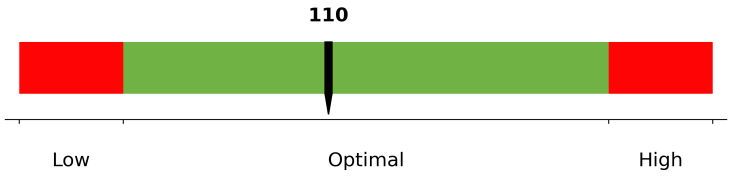
Non-Essential	Result (µmol/L)	Reference Range
Aspartic Acid (ASP)	22	**1.0 - 25.0**



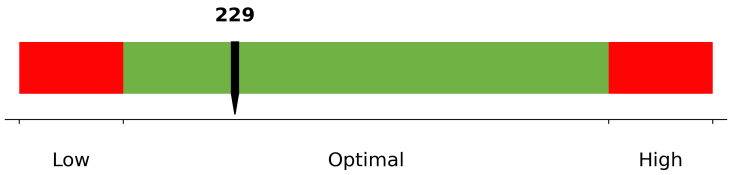
Your Aspartic Acid level seems optimal, keep going with balance protein intake. Multi vitamin and mineral supplementation should be beneficial.

Serine (SER)	110	**58.0 - 181.0**



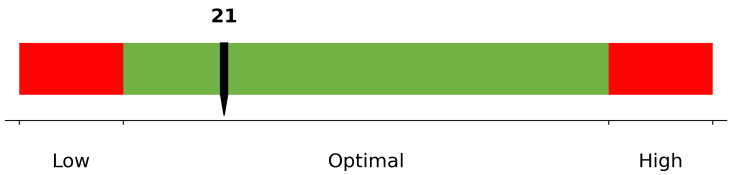
Your Serine level seems optimal, keep going with balance protein intake. Multi vitamin and mineral supplementation should be beneficial.

Glycine (GLY)	229	**151.0 - 490.0**



Your Threonine level seems optimal, keep going with balance protein intake. Multi vitamin and mineral supplementation should be beneficial.

Cystine (CYS)	21	**5.0 - 82.0**



Your Cystine level seems optimal, keep going with balance protein intake.

Name:	: John Peter Teasdale	Ref. Number
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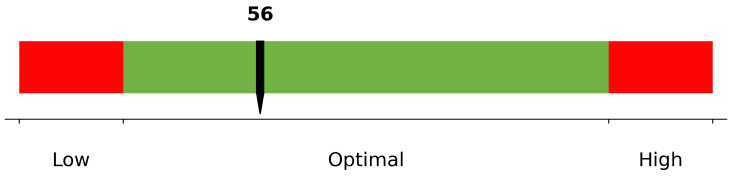
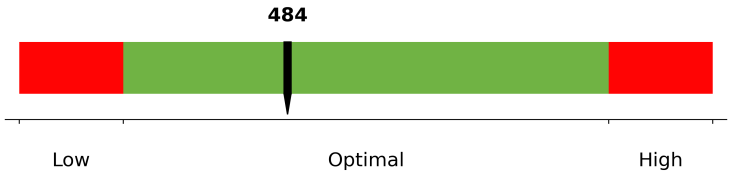
Non-Essential	Result (µmol/L)	Reference Range
Tyrosine (TYR)	56	**34.0 - 112.0**



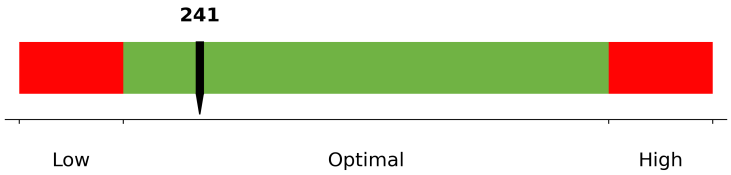
Your Tyrosine level looks optimal, keep going with balance protein intake. Multi vitamins and minerals supplementation should be beneficial.

Glutamine (GLN)	484	**372.8 - 701.4**



Your Glutamine level seems optimal, keep going with balance protein intake. Vitamin beta-ketoglutarat supplementation should be beneficial.

Alanine (ALA)	241	**177.0 - 583.0**



Your Glutamic Acid level seems optimal, keep going with balance protein intake. Multi vitamin supplementation should be beneficial.

Name:	: John Peter Teasdale	Ref. Number
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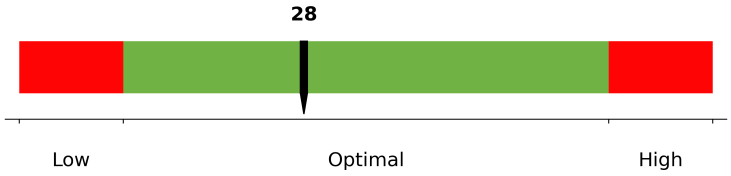
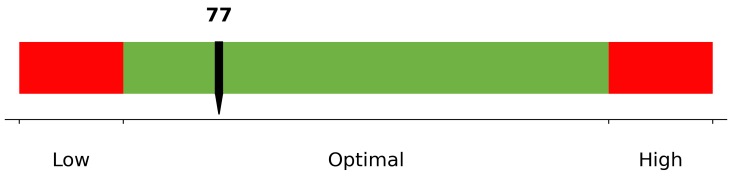
Age	: 35 years	

Derivatives	Result (µmol/L)	Reference Range
Citruline (CIT)		**12.0 - 55.0**

Your Citrulline level seems optimal, keep going with balance protein intake. Multi vitamins and minerals supplementation should be beneficial.

Ornithine (ORN)		**48.0 - 195.0**

Your Ornitihine level seems optimal, keep going with balance protein intake.

Authorized By

Mass Spectrometry & Separation Sciences Laboratory Head

Name:	: John Peter Teasdale	Ref. Number
Lab Number	: R2405300058a	DPS-2405280019
Age	: 35 years	

Interpretation at-A-Glance/Implied Conditions

Nutrition Intake

When three or more essential amino acids level in your plasma are tend to be low, you should check your protein intake to help ensuring amino acid adequacy. Pay attention for lysine, it can be lowered by excessive intake of arginine. For particular amino acid, such as histidine and arginine, low level also found in malabsorption condition, take care your gut healthy for better nutrition absorption. When you found that your particular amino acids are tend to high, please refer to another condition. The excess of protein intake mostly give direct impact to increase amino acid level in your blood.

Here are some of the top food sources of essential amino acids:

Meat: beef, lamb, and many other red meats
Poultry: chicken, turkey, duck, goose
Seafood: salmon, trout, tuna, mackerel, shrimp, lobster
Eggs: whole eggs, egg whites
Dairy: milk, cheese, yogurt
Nuts: almonds, pistachios, macadamia nuts, cashews, walnuts
Seeds: pumpkin seeds, squash seeds, hemp seeds, sunflower seeds
Nut butters: peanut butter, almond butter, cashew butter
Legumes: lentils, chickpeas, black beans, kidney beans
Whole grains: quinoa, oats, rye, barley, wheat
Soy products: soybeans, tofu, tempeh, edamame, protein supplements

In general, you don't need to select foods based on their particular amino acid content. Instead, eating a variety of protein-rich foods throughout the day will provide you with all the essential amino acids and nutrients you need

Detoxification Capacity

The amino acids glutamic acid, cystine, and glycine combine to form glutathione. It is generated by the liver and has a role in numerous bodily functions. Functions of the immune system, synthesis of chemicals and proteins required by the body, and tissue growth and repair are all aided by glutathione. Always monitor your levels of these three amino acids. If they tend to be low, you can take a supplement of glutathione and increase your protein intake.

Vitamin & Mineral Suplementation Presumptive Needs

Some vitamins and minerals are required in amino acid metabolism, when you found that following amino acids level are tend to high in your blood, consider to take your vitamin and mineral supplementation. When you found that your threonine, lysine, phenylalanine, methionine, cystine, and tyrosine are tend to high, you can take the benefit of zinc, iron, copper, and magnesium in combination with vitamin B1, B6, and vitamin C supplementation. But when you found that your arginine, valine, leucine, tryptophan, glycine, proline, glutamic acid, and glutamine are tend to high, you should consider to take multivitamin B supplementation. Multivitamin and mineral supplements are readily available. Excessive nutririon intake also causing the elevation of your amino acid levels, balanced nutrition intake should be very beneficial for your health. When you found that your severals amino acids are tend to low, please refer to the nutrition intake section.

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Interpretation at-A-Glance/Implied Conditions

Neurological Effect

Insufficiencies in catecholamines and thyroid function brought on by low phenylalanine levels can cause symptoms of sadness, exhaustion, autonomic dysfunction, and cognitive decline. You should take phenylalanine supplements and try to live a less stressed lifestyle. Mental health issues including depression, insomnia, and schizophrenia are commonly linked to low tryptophan levels. Taking supplements containing 5-hydroxytryptophan (5-HTP) may be advantageous. Pay more attention to phenylalanine and tryptophan when their levels are tend to low.

Obesity and Diabetes Mellitus

Excessive intake of nutrition should not be beneficial for our health, one of the main disorder is obesity and lead to higher risk for Diabetes Mellitus. Before Diabetes Mellitus occur, several amino acids disturbance are detected as a risk pattern. Pay more attention for the elevation one of these following amino acids; leucine, isoleucine, valine, phenylalanine, tyrosine and tryptophan and also lower level of glycine in your blood, it is better to also check your blood glucose level. If you can detect your risk earlier, the better outcome will you get.