A gene for functional metabolic system

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Metabolism is the process your body uses to get or make energy from the food you eat. The metabolic system's role is to process the food we eat and break it down to produce energy for the body to function properly. Carbohydrates, proteins and lipids are the three constituents of the food. Substances (enzymes) in the digestive system break these constituents down into sugars which are the main fuel for the body. The body can use this fuel right away, or it can store the energy in body tissues, such as liver, muscles and body fat. Some of the enzymes are also responsible for breaking down and removing toxins from the body.

A metabolic disorder comes up when the enzymatic processes in the body are disregulated. When this happens, the amounts of some substances in the body might be either more than enough or insufficient. You might develop a metabolic disorder when some organs, such as your liver or pancreas, become diseased or do not function normally.

There are many different types of metabolic disorders which affect the body in different ways. Some of the examples of metabolic disorders include hypo/hyper-tyroidism, glycosemia, diabetes and phenylketonuria.

Metabolic disorders can be caused by inherited conditions or defects, which affect the body's metabolic system.

In our study, we have identified the function of a gene whose absence results in early death of newborn mice. We tried to understand the reason for this and checked several tissues, organs and systems. Metabolic disorders are relatively difficult to diagnose compared to other types of birth defects. Most of the birth defects produce more clear differences in physical appearance which are usually visible from birth and can be diagnosed easily. Since metabolic disorders affect the ability to turn food into energy, it might take some time for symptoms to develop.

We have found that absence of the gene that we studied caused several metabolic defects in newborn mice which eventually led to their early demise.

Degree project in Biology, Master of Science (2 years), 2012
Examensarbete i biologi 30 hp till magisterexamen, Uppsala universitet, 2012
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