

Biochemical Basis for the Benefits of Fasting

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Given the recent advancements on the effects of food intake on health, our understanding of nutritional behavior on human health has greatly expanded. Our body is adapted to prolonged hunger due to scarcity of food in a great portion of human history. Only in recent years has we had on demand access to food. Accordingly, continuous food consumption goes against the habit of starvation, which our body is accustomed to for tens of thousands of years.

It is logical, therefore, to expect various pathological conditions rising from such a change in our feeding habit. On the contrary, fasting during Ramadan appears to be in complete agreement with our habit of prolonged food deprivation and thus should be beneficial to our health. Studies show that by increasing the intervals between two consecutive food intakes, which is best achieved during Ramadan, mammalian Target of Rapamycin pathway is inactivated leading to enhanced autophagy. Reduced mTOR activation slows aging, is beneficial to neurodegenerative conditions, cancer, and type 2 diabetes. This article is aimed at understanding possible mechanisms through which fasting can be beneficial to human health.

Keywords: Benefits of Fasting, Health, mTOR, Autophagy.

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