

Structural characterization of Human Monocarboxylate Transporters (hMCTs)

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Human monocarboxylate transporters (hMCTs) play crucial roles in cellular metabolism and signaling pathways by facilitating the transport of metabolites such as monocarboxylates, hormones, and aromatic amino acids [1,2]. hMCT10 facilitates bi-directional transport of aromatic amino acids and thyroid hormone across the cell membrane [2,3]. However, the biological significance and transport mechanism of several hMCTs remains incompletely understood. Despite decades of research, limited structural information on several hMCTs hampers our understanding of hMCTs and their physiological roles. Here, we present a streamlined and cost-effective approach utilizing *S. cerevisiae* as an expression host, enabling the structural characterization of hMCT10. By elucidating the detailed structure of hMCT10, we aim to fill critical knowledge gaps regarding its substrate specificity and transport mechanisms. Furthermore we hope to shed light on the various roles played by hMCTs in cellular physiology and potential implications in disease states.

References

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