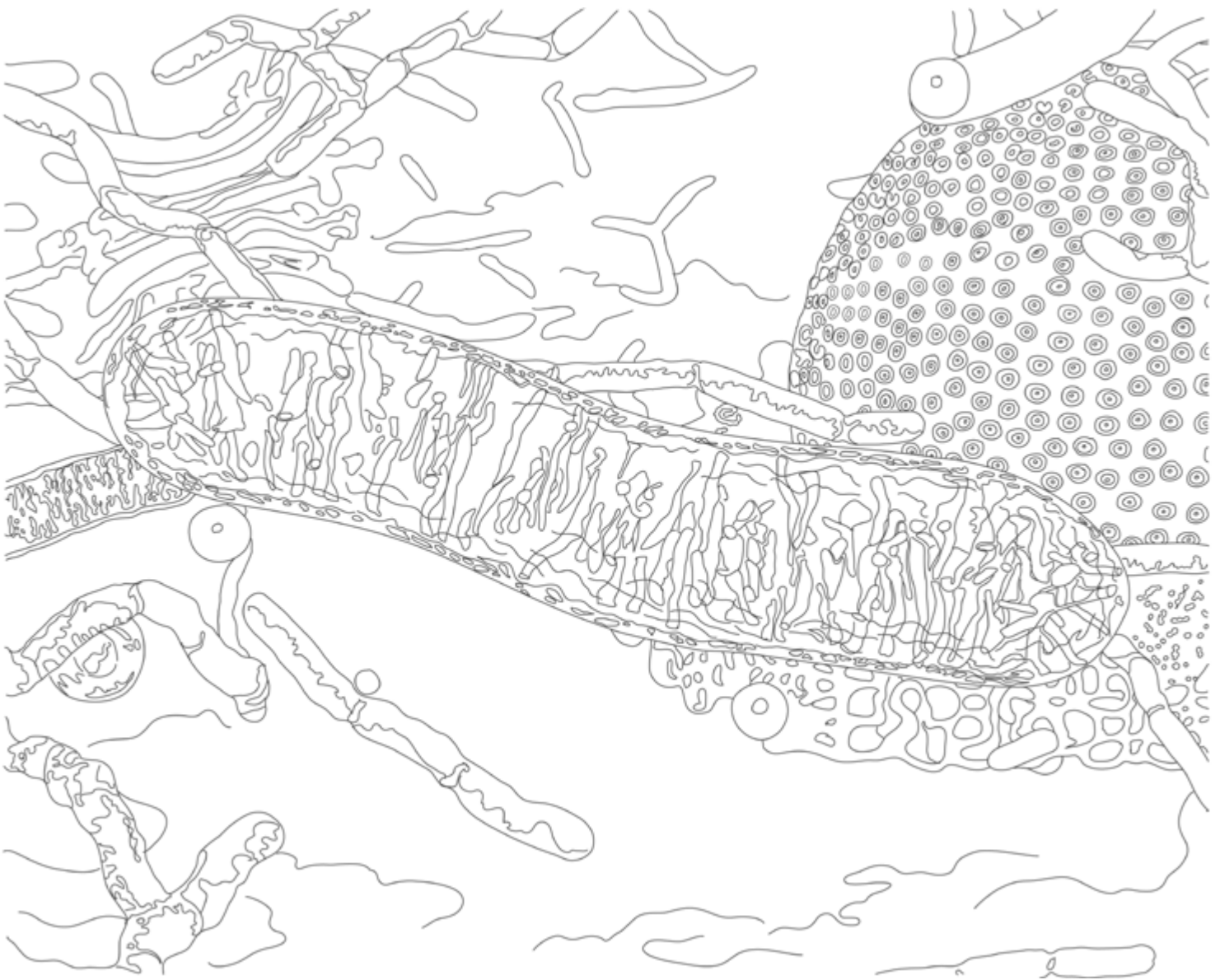




Research at the **MRC Mitochondrial Biology Unit (MBU)** is focused on an important part of cells called mitochondria. These mitochondria play a part in a large number of human diseases, and may also be involved in the process of ageing.

Our scientists are working to understand the fundamental processes taking place in mitochondria, and how these processes are involved in human disease. This will allow us to develop new treatments and therapies.

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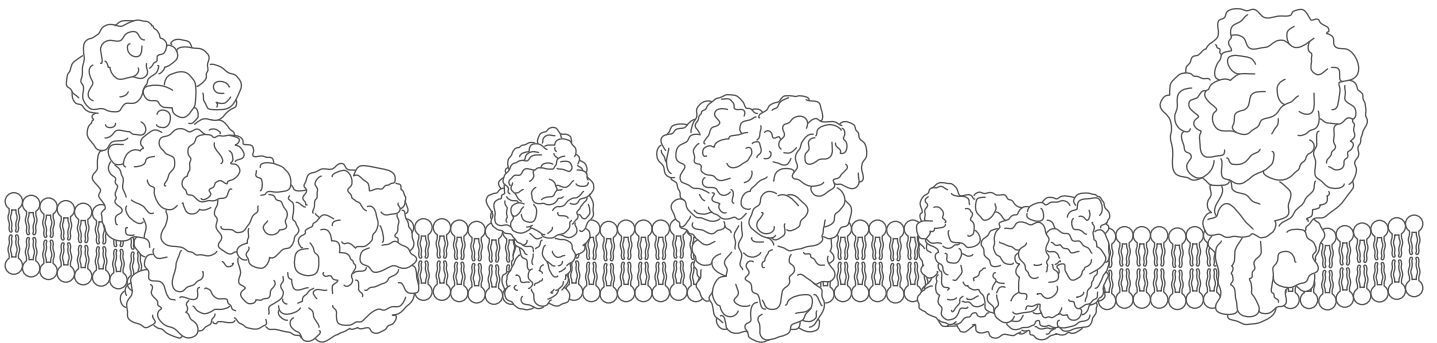


## Mitochondria

These are the “powerhouses of the cell”. They are responsible for turning energy from sugars and fats that we eat into a chemical called ATP. This energy can then power the body so that we can do all the things we need to do to keep living.

K A Y M I N L E M P L U E W S W E C H S S Q W M B  
 S M G G D O C G H X P M B P P F L Y F C O D T H J  
 Y T S H R T X Y W I D A M Y K A T U I I E F D D C  
 O Q A R H E S X P M I K S U J F Y T O E X G K R I  
 N U J C E I N E J R E B M B S O E V G N B G W W F  
 A O A G O I T E D S S U I S I N E S S C I F H A M  
 Z R I L G T R N D E W O C T E A P X C E G H U Q H  
 P X O T E L O R T V Q H R G N U U D I T P H K T E  
 E G G E A H I V A H C Q O A S A H O T R A P K E K  
 Y G J S C R K D J C V F S V R K A O A V T J G J U  
 R F T O B U E E Y E N I C I D E M F M E R X J E F  
 X S T J I I B N F S I J O G B Z D E R U H W E M Q  
 U I T G G N O W E Z F W P G F O R R O T U O L P G  
 M N T A U L L L X G U U E Z U E D T F G S A W W K  
 G E N O M I C S O O E N N G N V C Q N I F D E N K  
 O G X W P C N M J G B D X C X U A Q I X I B X L C  
 P L N K N H H L N H Y R O I T G C J O E A Y O Y I  
 A T P S Y N T H A S E F P R Q I K L I L N O B U P  
 H K I L P D H N X W G I T U U J O R B P C S Z V L  
 L J M F X P X T F K N A F C A E G N O M F F K H S  
 U F U N P E D S J N F M K L L A N J B O H N A C K  
 P R T E S A E S I D C X T R D S U J T C X M V X C  
 D G U H G D Q J L S S C Q J O L H P N W G A N F M  
 T C L I Y P Z U P U D F S O W G M Y O U D K K R J  
 J V A V W C H D S I K Q T S C F F Y P G S Y M C Z

ATPSYNTHASE  
 BIOINFORMATICS  
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 CARRIERS  
 COMPLEXI  
 COOL  
 DISEASE  
 DYSFUNCTION  
 ENERGY  
 FOOD  
 FUN  
 GENETICS  
 GENOMICS  
 MEDICINE  
 MICROSCOPE  
 MITOCHONDRIA  
 NEURODEGENERATION  
 PHYSIOLOGY  
 PIPETTE  
 SCIENCE



## Five key protein complexes

These proteins, known as the respiratory chain, are embedded in a lipid layer (a kind of fat). The proteins perform part of the process to release energy in cells. The proteins need the oxygen that we breathe to complete their job. If the oxygen that is supplied by the blood is stopped, for example during a heart attack or stroke, then mitochondria can no longer do their job. This can damage organs such as the brain and heart. A respiratory chain that works properly is essential to sustain human life.

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