



MEMBRANE STRUCTURE

An electron micrograph showing several rod-shaped prokaryotic cells. The cells have a thick, textured outer layer and a granular interior. The text 'MEMBRANE STRUCTURE' is overlaid in large, bold, italicized black letters.

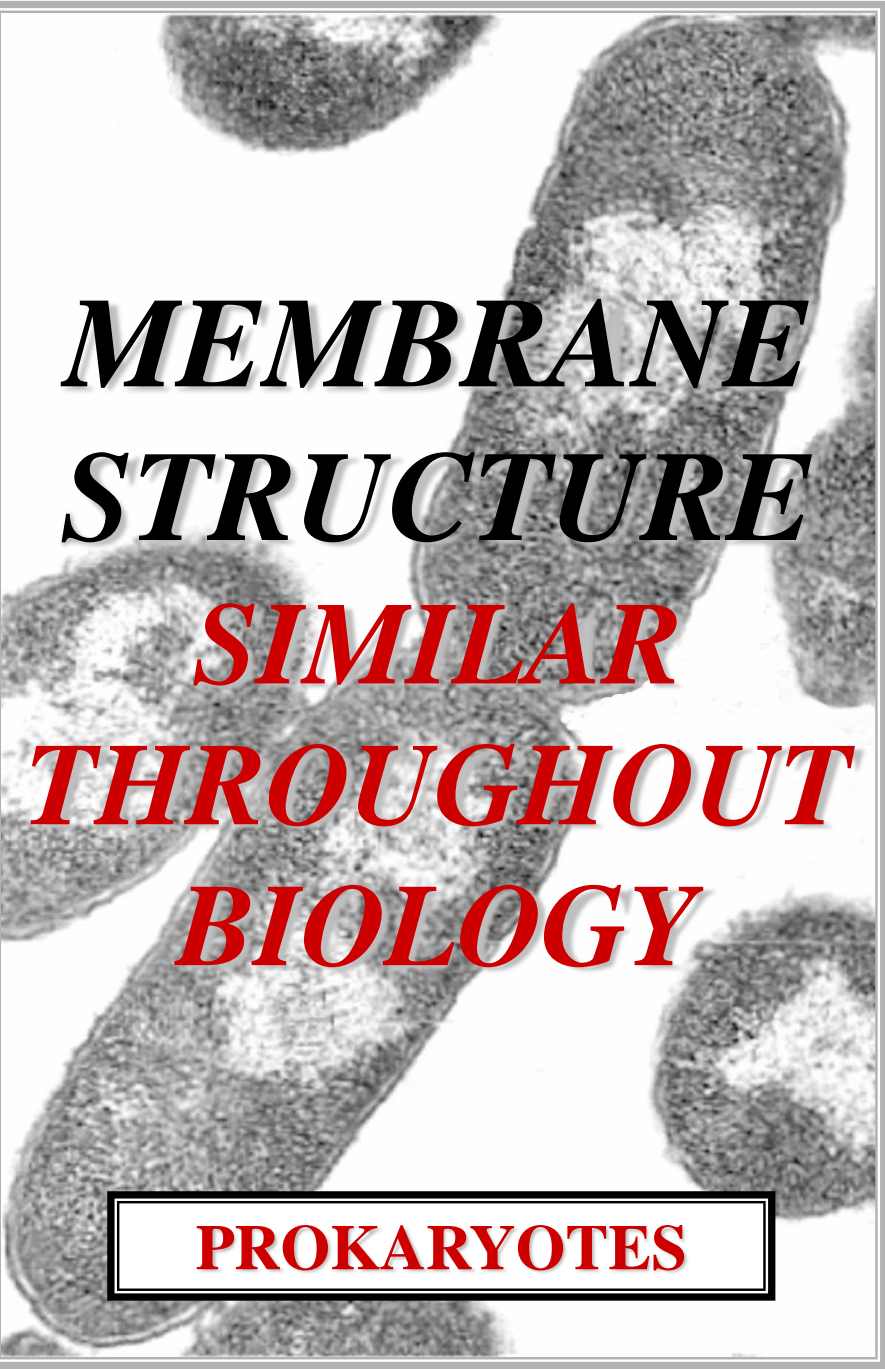
***MEMBRANE
STRUCTURE***

PROKARYOTES

An electron micrograph of a eukaryotic cell, showing a complex internal structure with a nucleus, mitochondria, and various organelles. A small red 'S' in a white box is in the top right corner. The text 'MEMBRANE STRUCTURE' is overlaid in large, bold, italicized black letters.

***MEMBRANE
STRUCTURE***

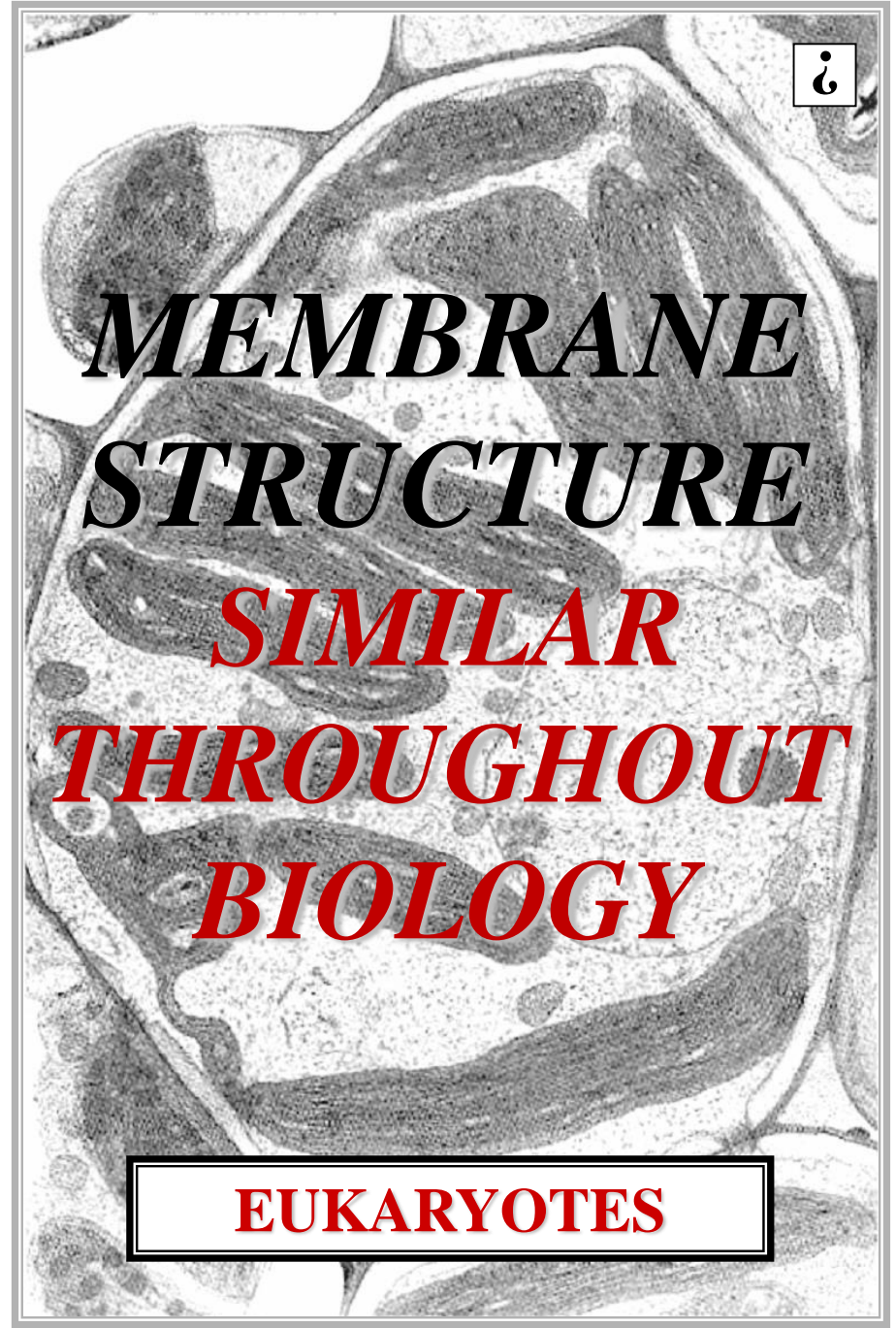
EUKARYOTES



***MEMBRANE
STRUCTURE***

***SIMILAR
THROUGHOUT
BIOLOGY***

PROKARYOTES



***MEMBRANE
STRUCTURE***

***SIMILAR
THROUGHOUT
BIOLOGY***

EUKARYOTES

An electron micrograph showing several rod-shaped prokaryotic cells. The cells have a thick, textured outer layer and a granular internal structure. The text is overlaid in the center.

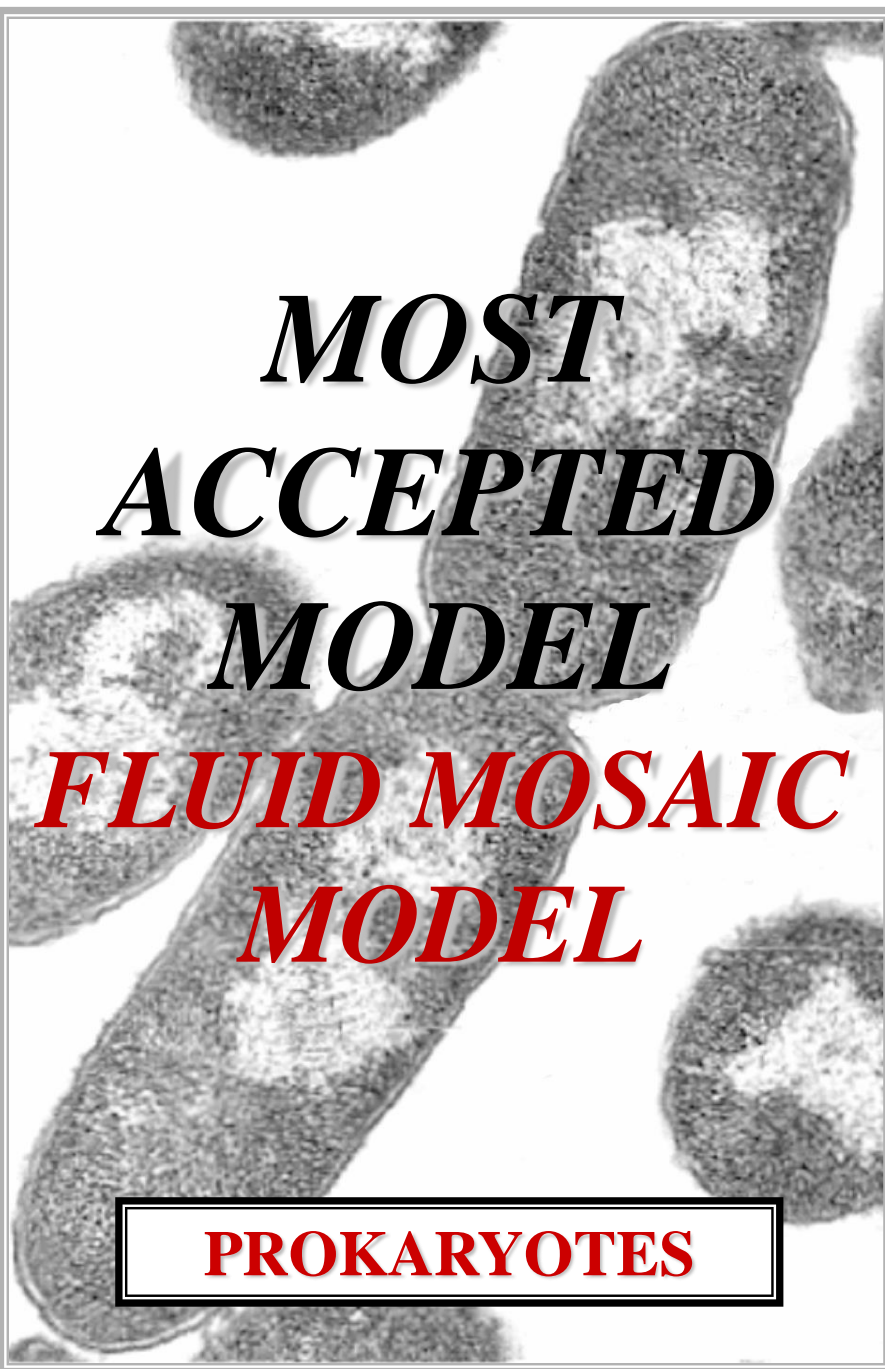
***MOST
ACCEPTED
MODEL***

PROKARYOTES

An electron micrograph of a eukaryotic cell, showing a large nucleus with a nucleolus, surrounded by various organelles like mitochondria and endoplasmic reticulum. A small red box with the letter 'F' is in the top right corner. The text is overlaid in the center.

***MOST
ACCEPTED
MODEL***

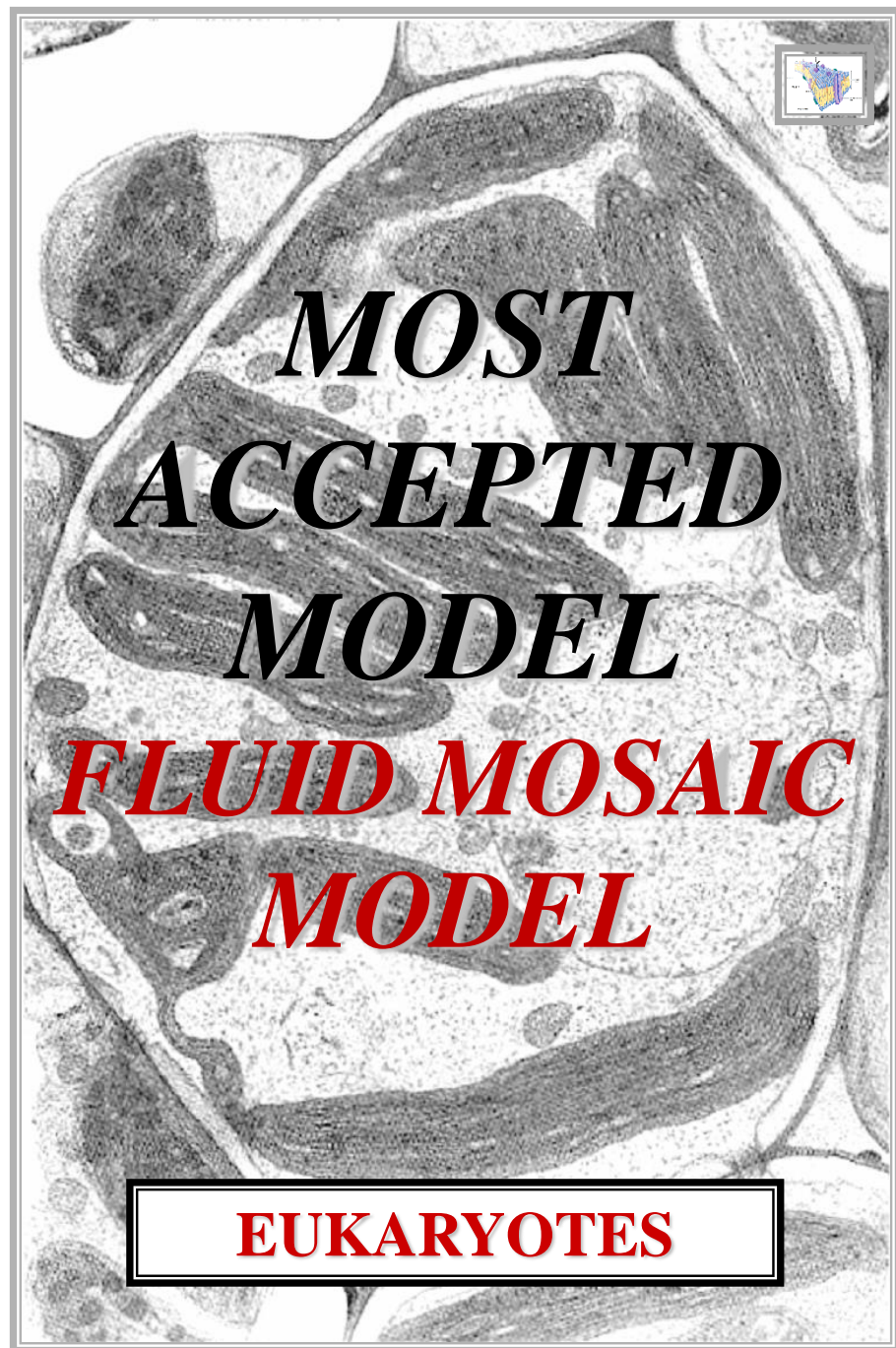
EUKARYOTES



***MOST
ACCEPTED
MODEL***

***FLUID MOSAIC
MODEL***

PROKARYOTES



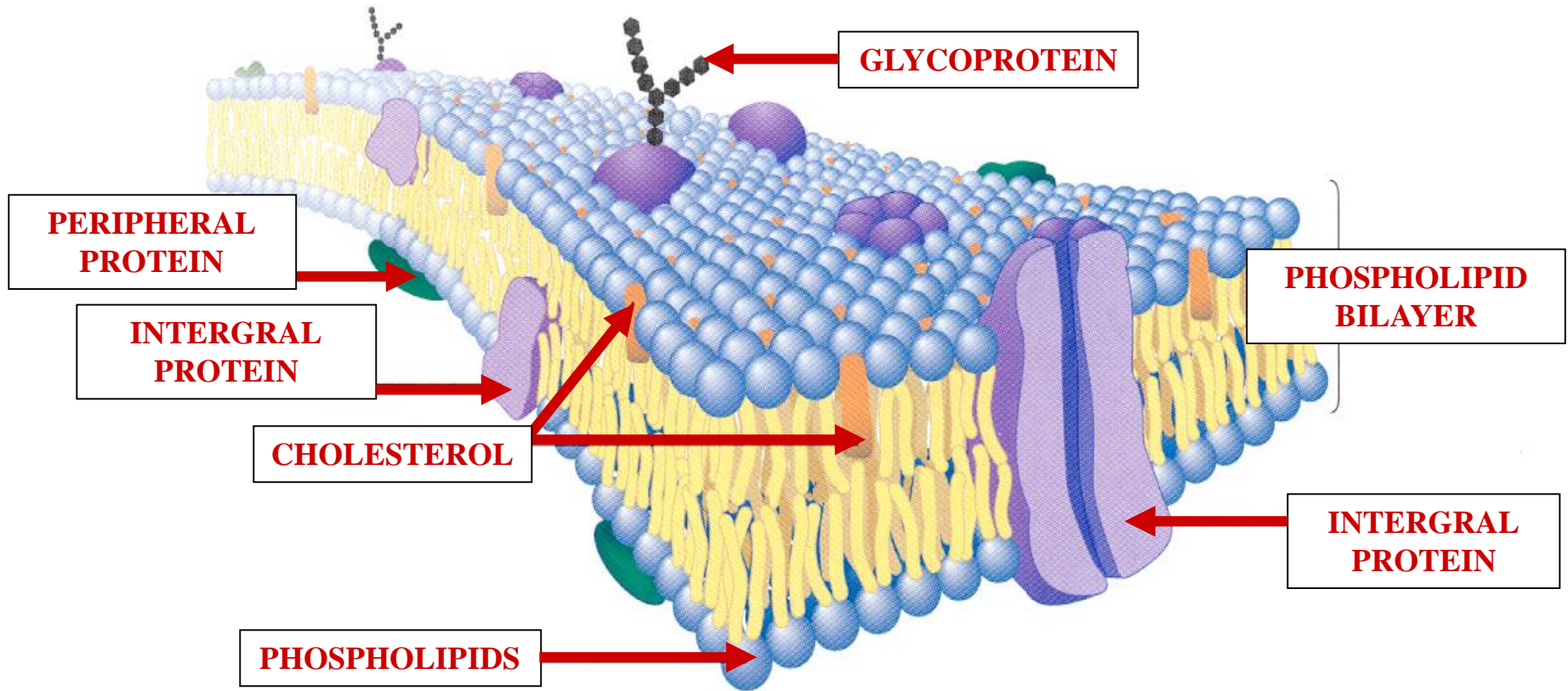
***MOST
ACCEPTED
MODEL***

***FLUID MOSAIC
MODEL***

EUKARYOTES



MEMBRANE STRUCTURE



FLUID MOSAIC MODEL



FLUID MOSAIC MODEL

FLUID MOSAIC MODEL COMPONENTS

FLUID MOSAIC MODEL COMPONENTS

PHOSPHOLIPIDS

FLIUD MOSAIC MODEL COMPONENTS

FLUID MOSAIC MODEL COMPONENTS

**PHOSPHOLIPIDS
CHOLESTEROL**

**FLIUD MOSAIC MODEL
COMPONENTS**

FLUID MOSAIC MODEL COMPONENTS

PHOSPHOLIPIDS

CHOLESTEROL

PROTEINS

FLIUD MOSAIC MODEL COMPONENTS

FLUID MOSAIC MODEL

COMPONENTS



PHOSPHOLIPIDS

CHOLESTEROL

PROTEINS

GLYCOPROTEINS

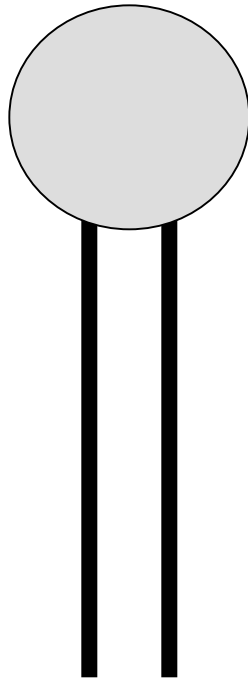
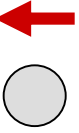
FLIUD MOSAIC MODEL

COMPONENTS



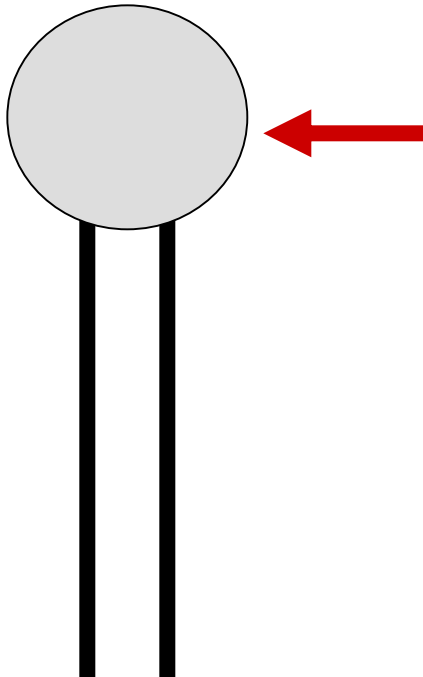
PHOSPHOLIPIDS

PHOSPHOLIPID STRUCTURE



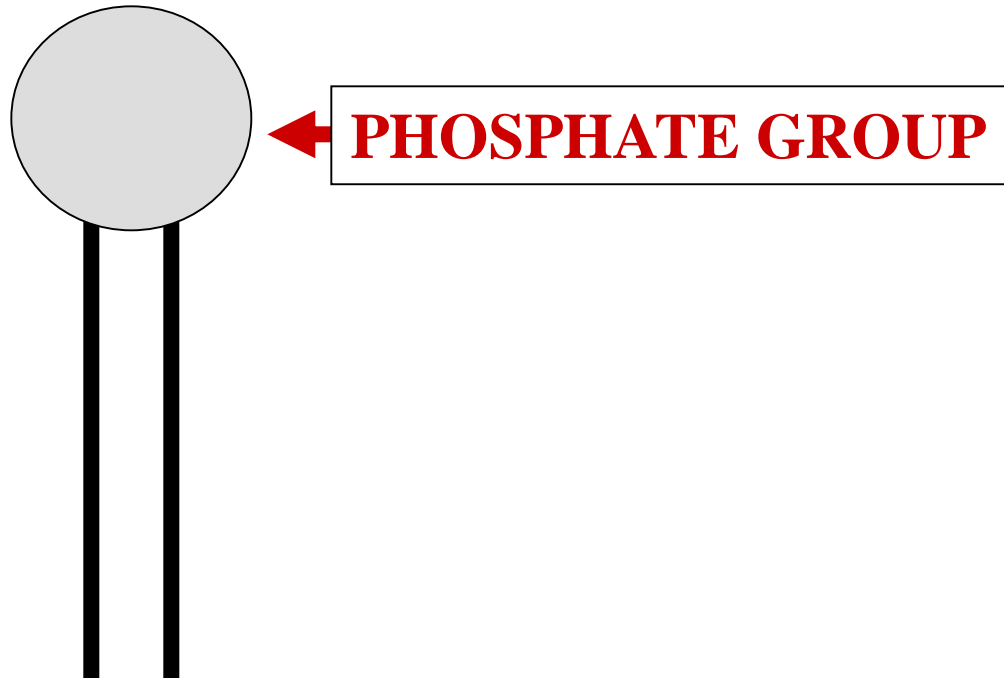
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PHOSPHOLIPID STRUCTURE



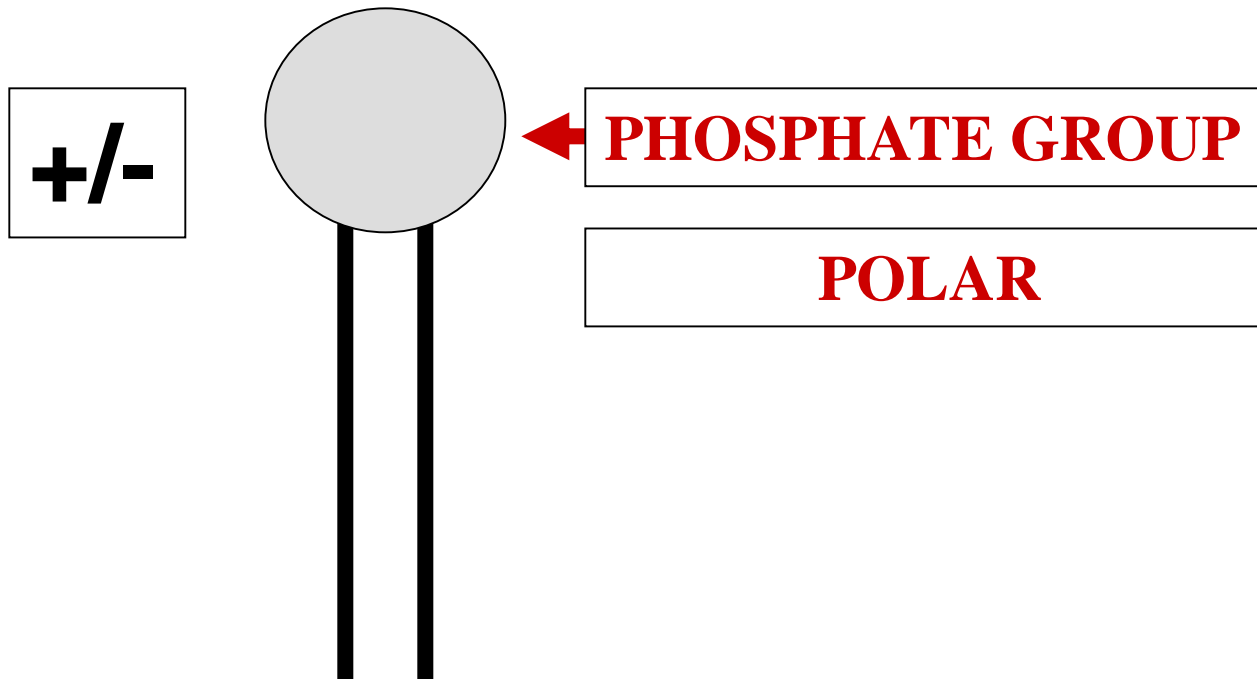
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PHOSPHOLIPID STRUCTURE



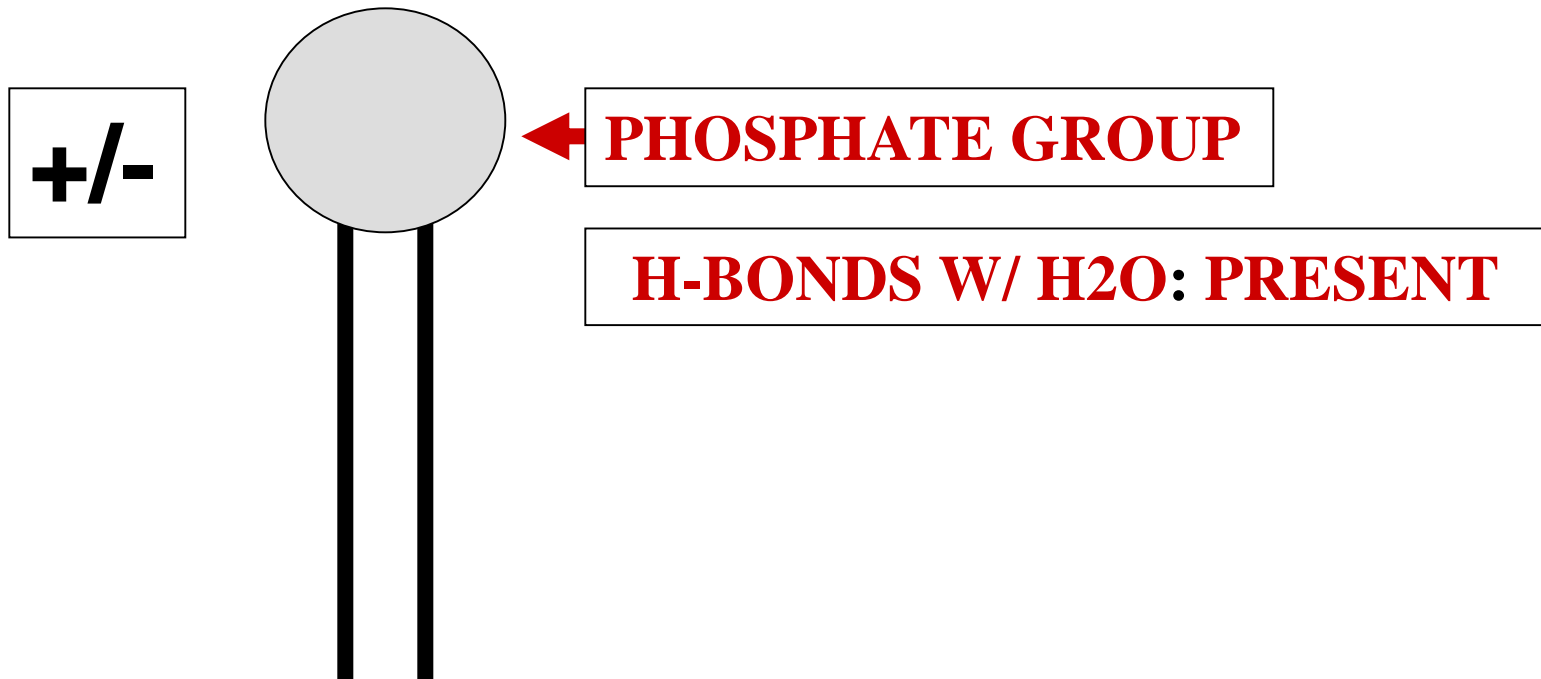
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PHOSPHOLIPID STRUCTURE



PHOSPHOLIPID

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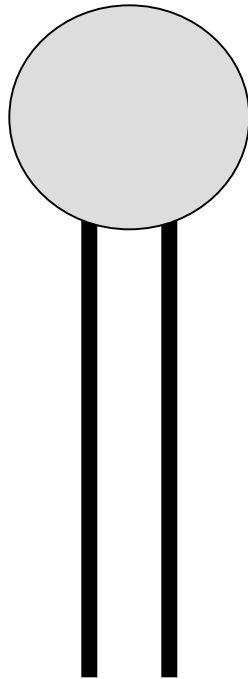


PHOSPHOLIPID

PHOSPHOLIPID STRUCTURE



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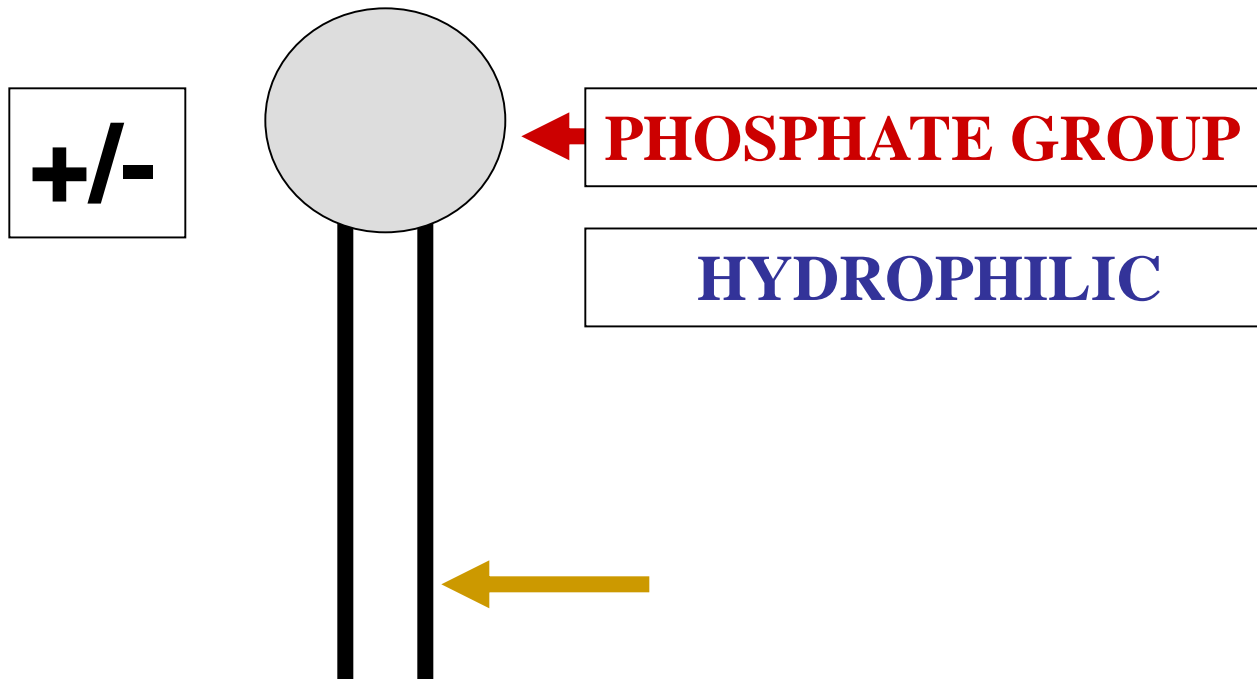


PHOSPHATE GROUP

HYDROPHILIC

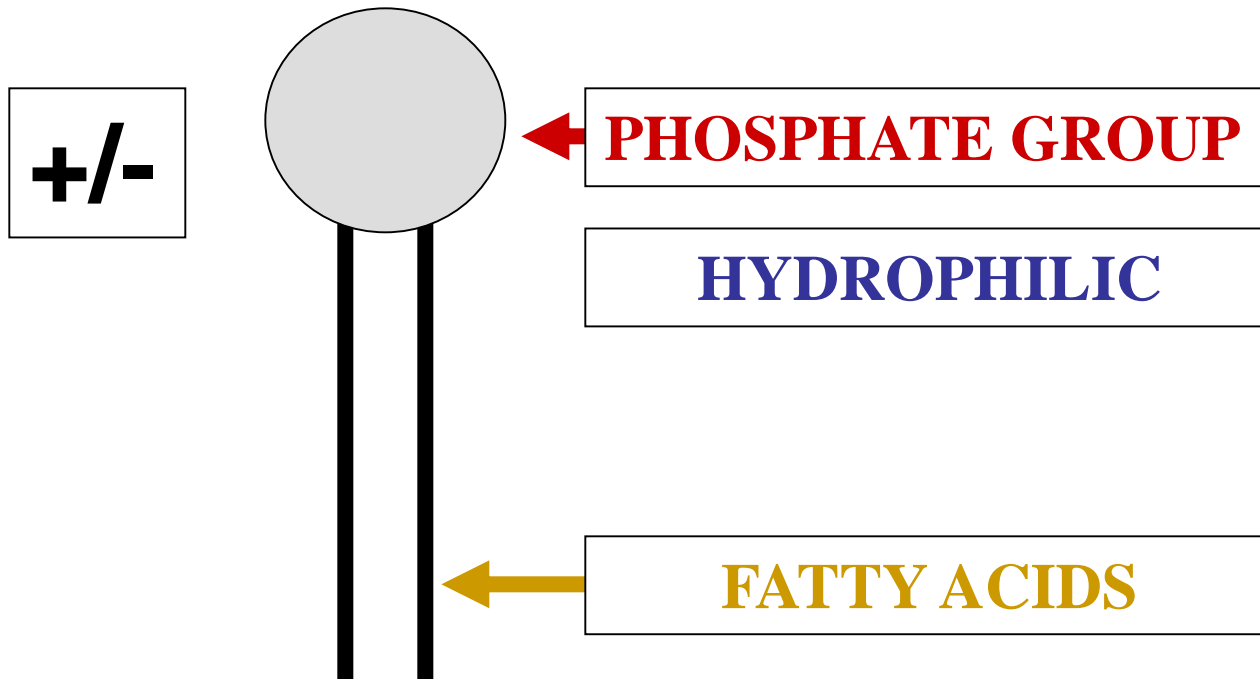
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PHOSPHOLIPID STRUCTURE



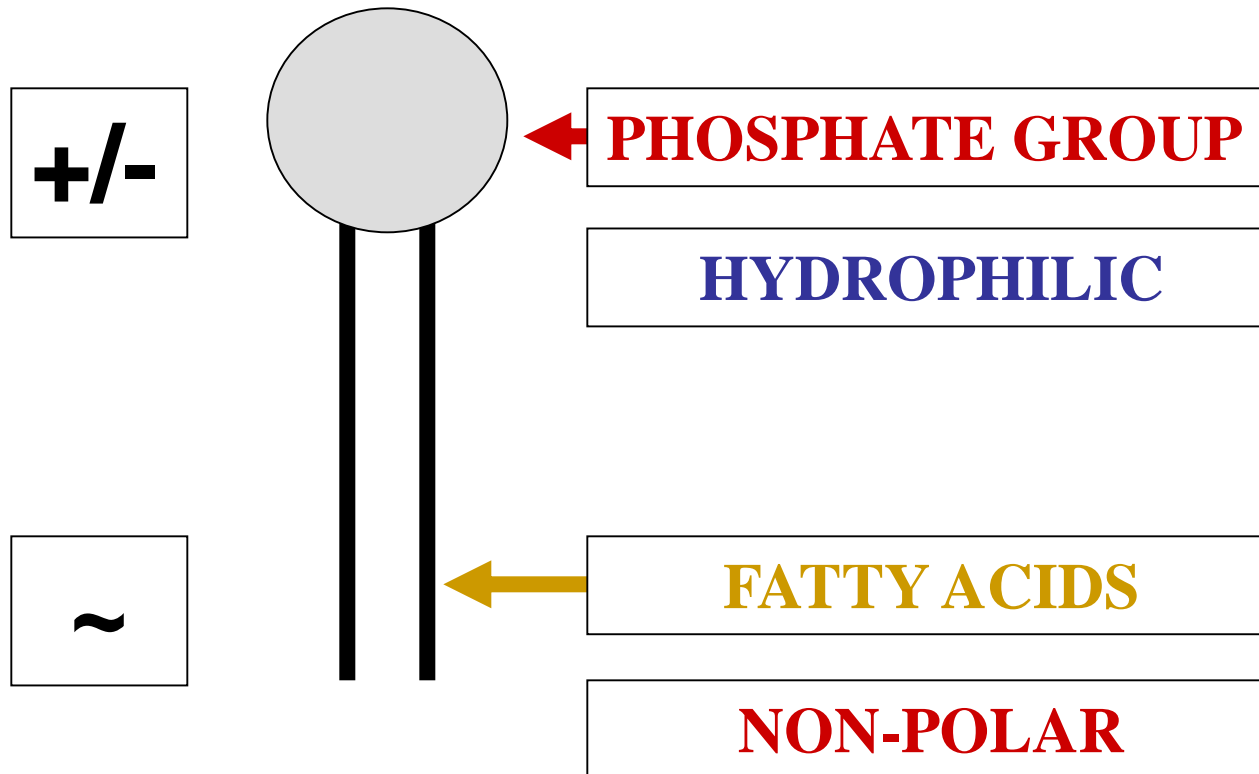
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PHOSPHOLIPID STRUCTURE



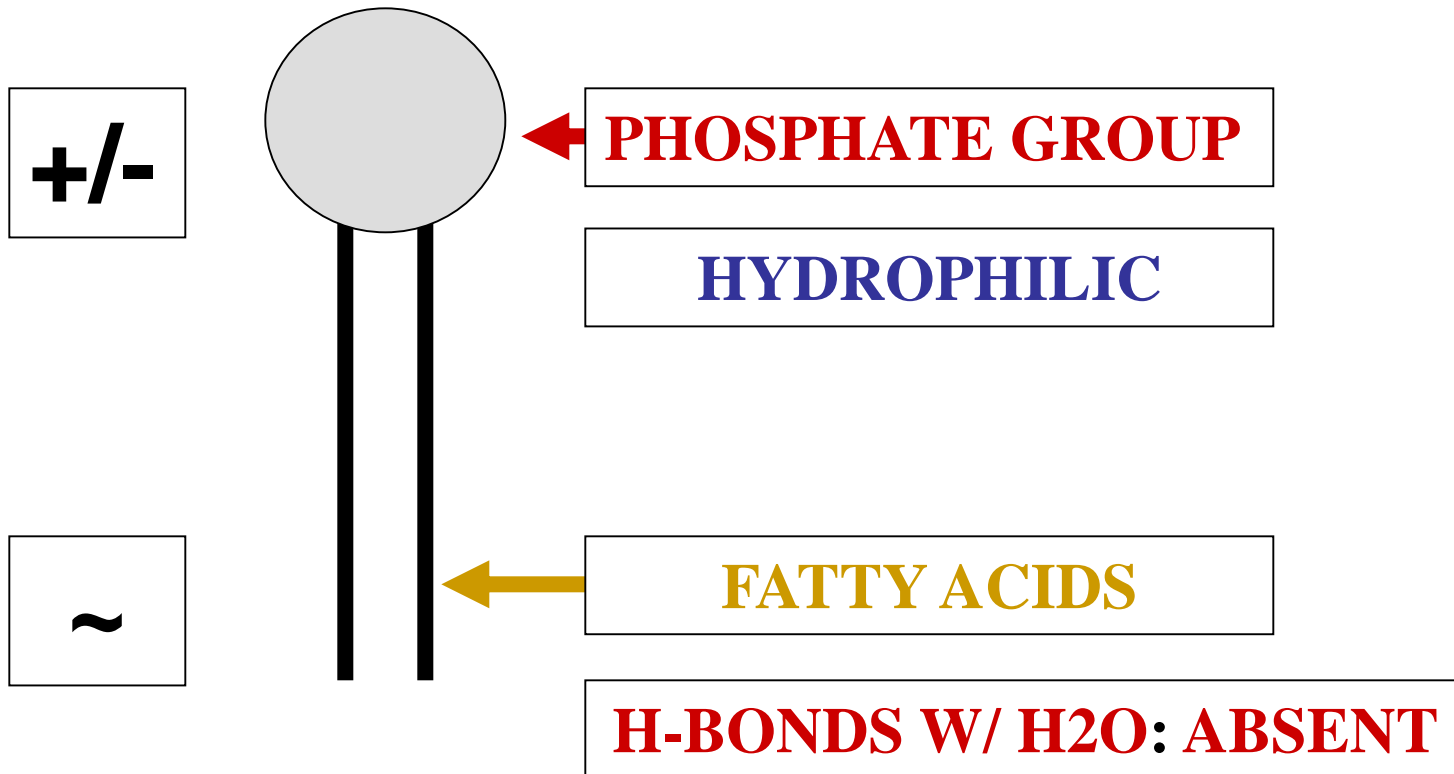
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PHOSPHOLIPID STRUCTURE



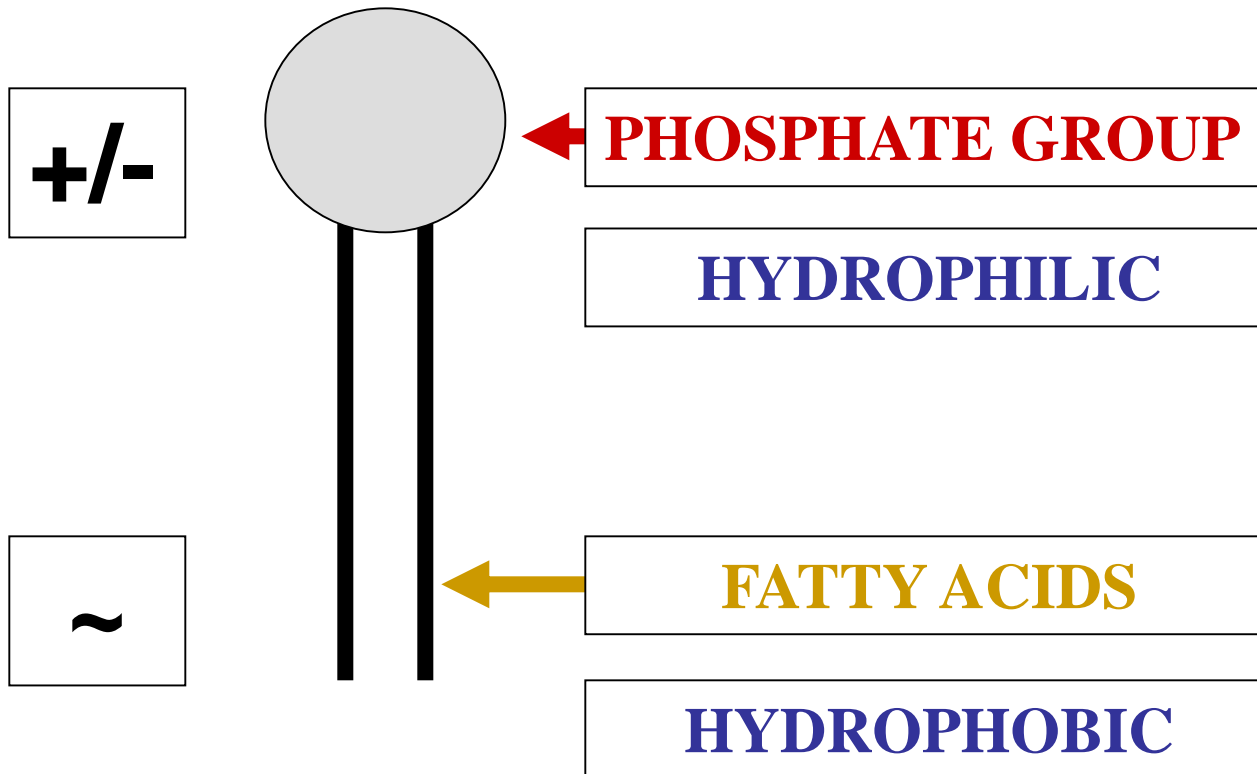
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PHOSPHOLIPID STRUCTURE



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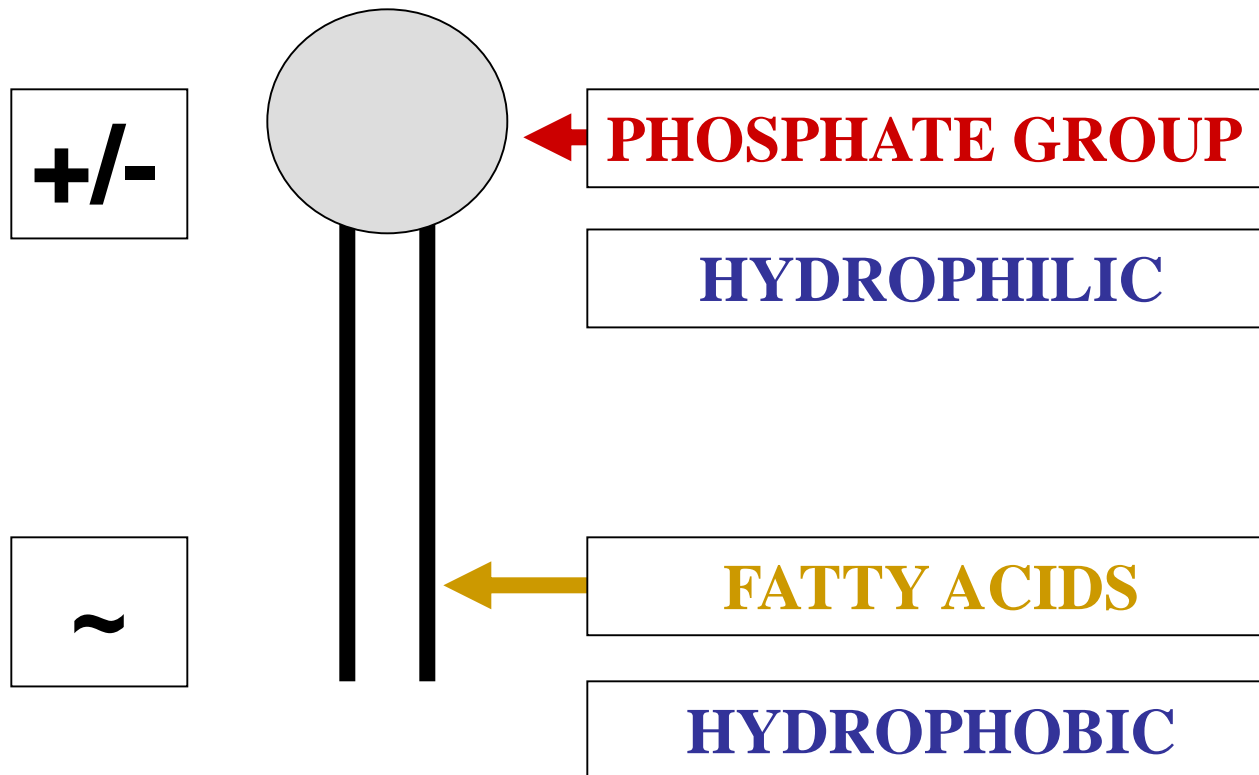
PHOSPHOLIPID STRUCTURE



PHOSPHOLIPID



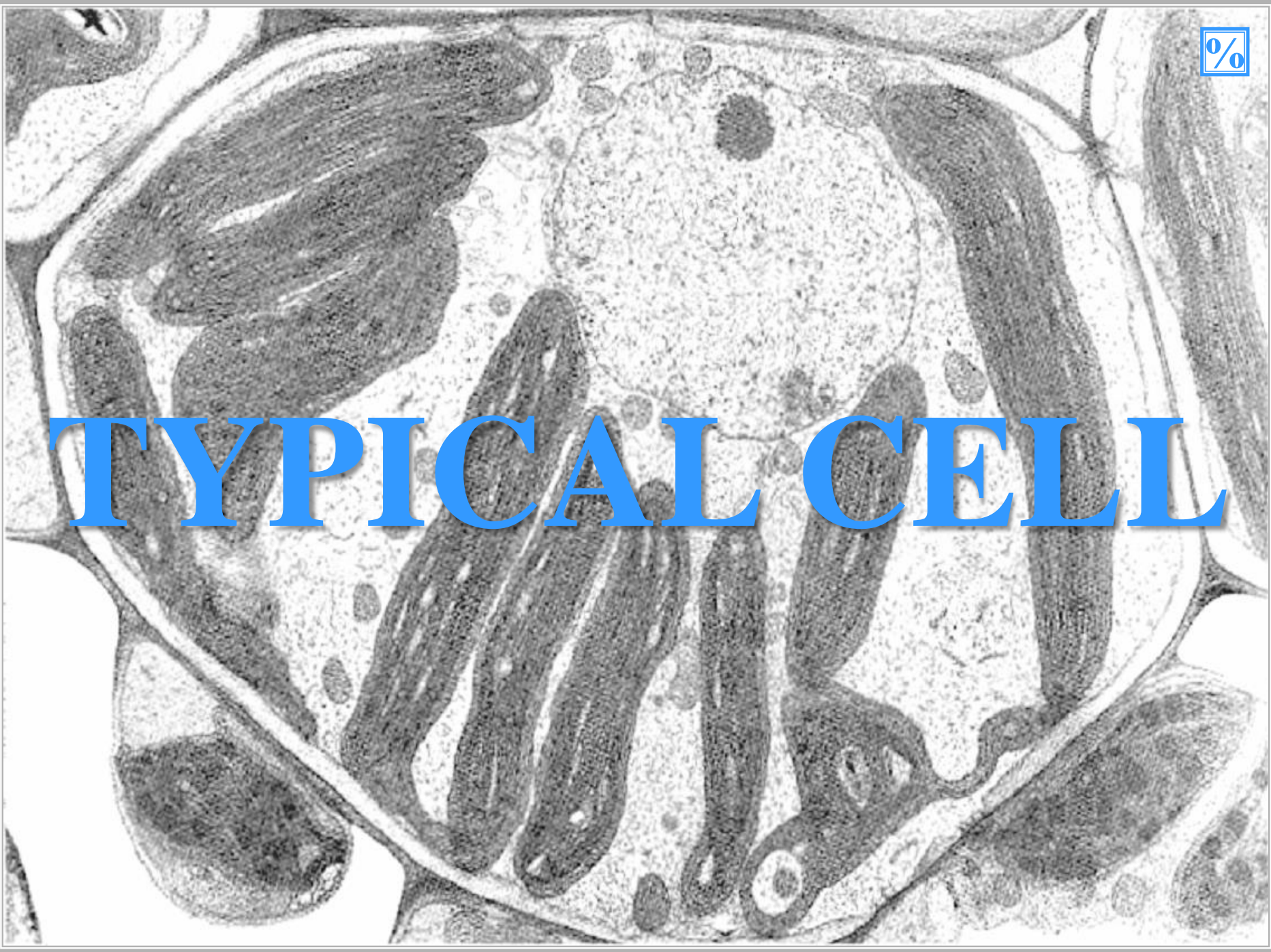
PHOSPHOLIPID STRUCTURE



PHOSPHOLIPID: AMPHIPATHIC



TYPICAL CELL



TYPICAL CELL

70% - 90%

WATER



**TYPICAL CELL
AQUEOUS
SOLUTION**



WATER

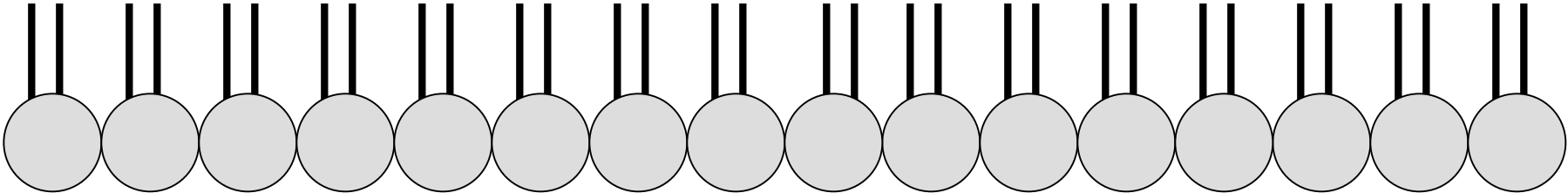
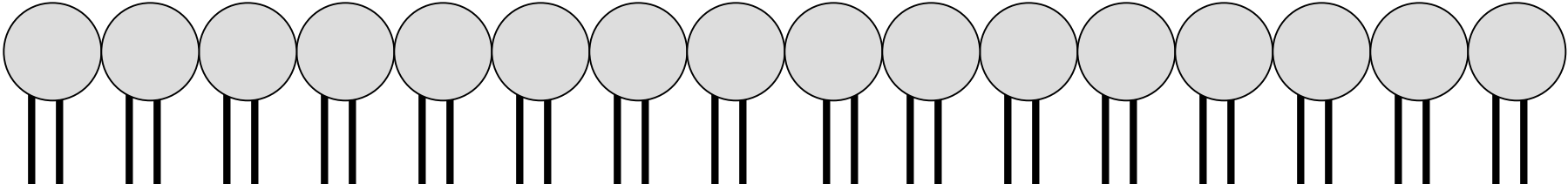
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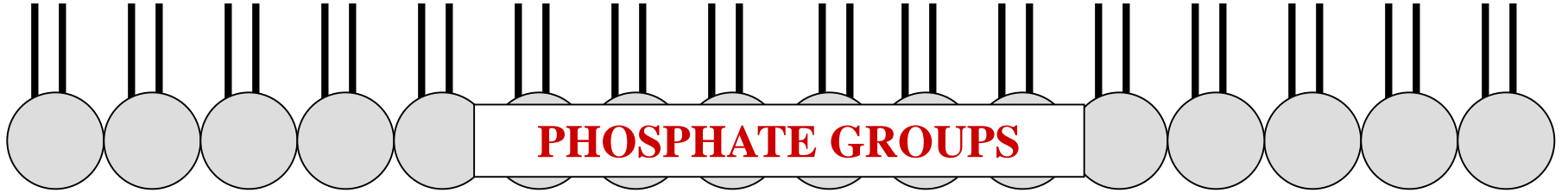
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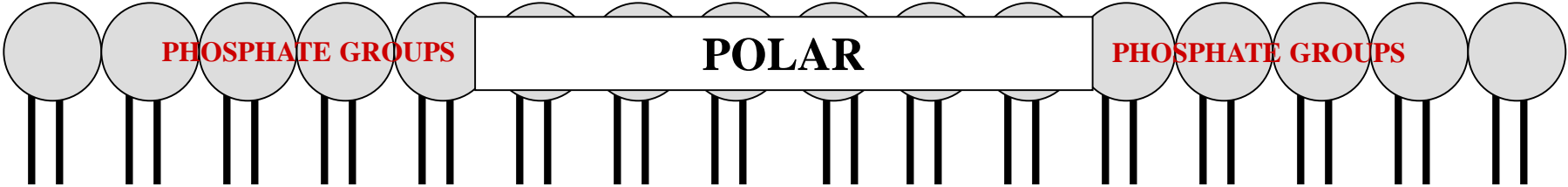
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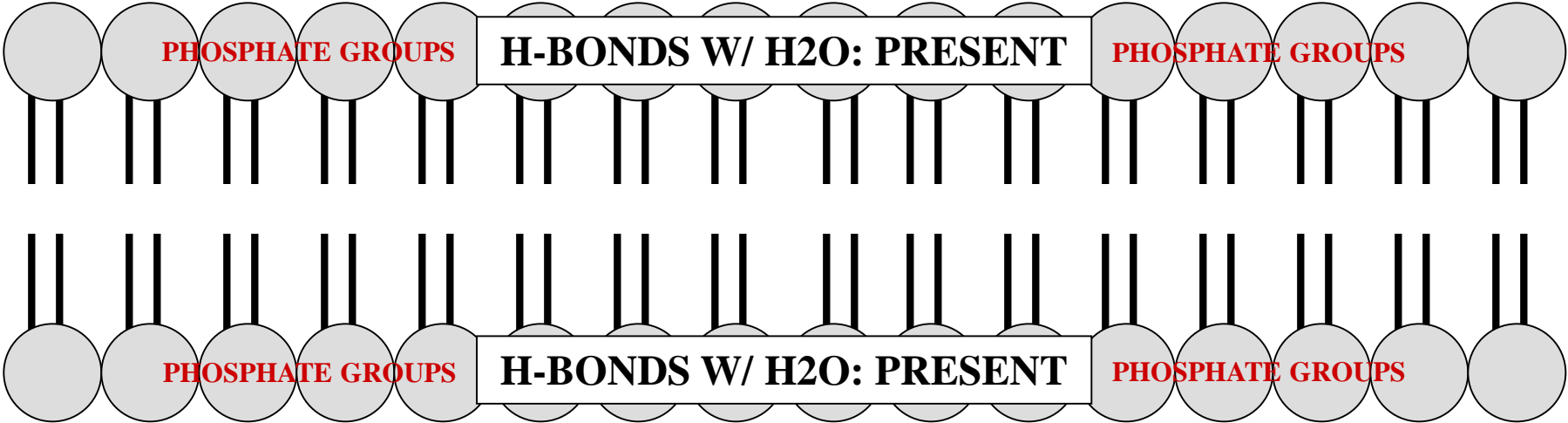
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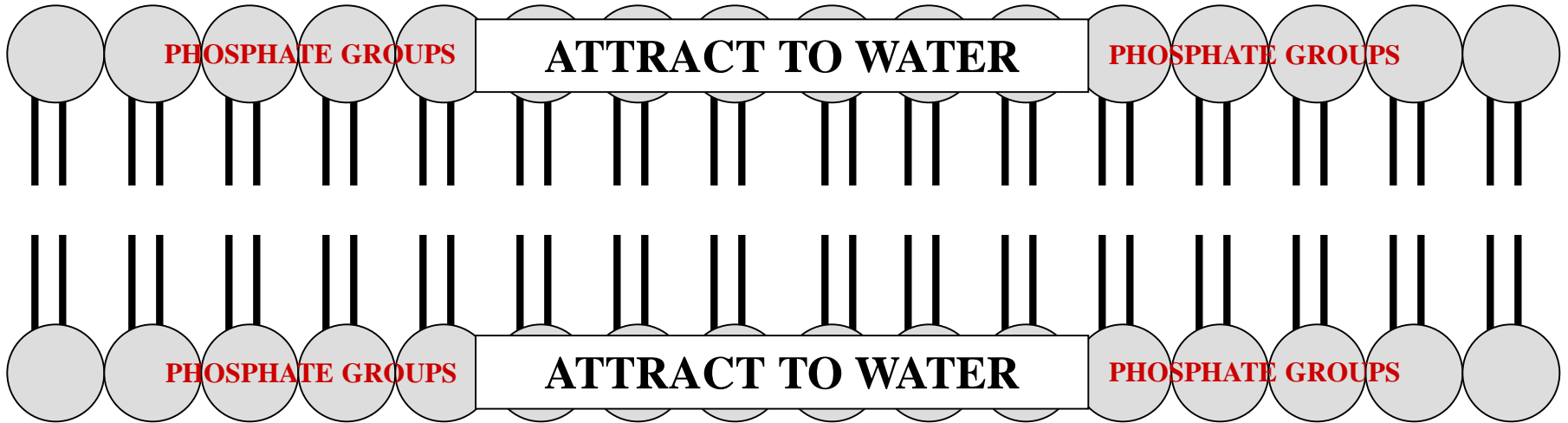
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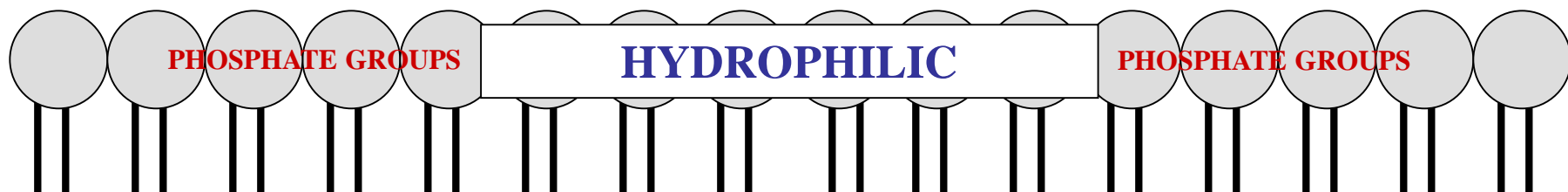
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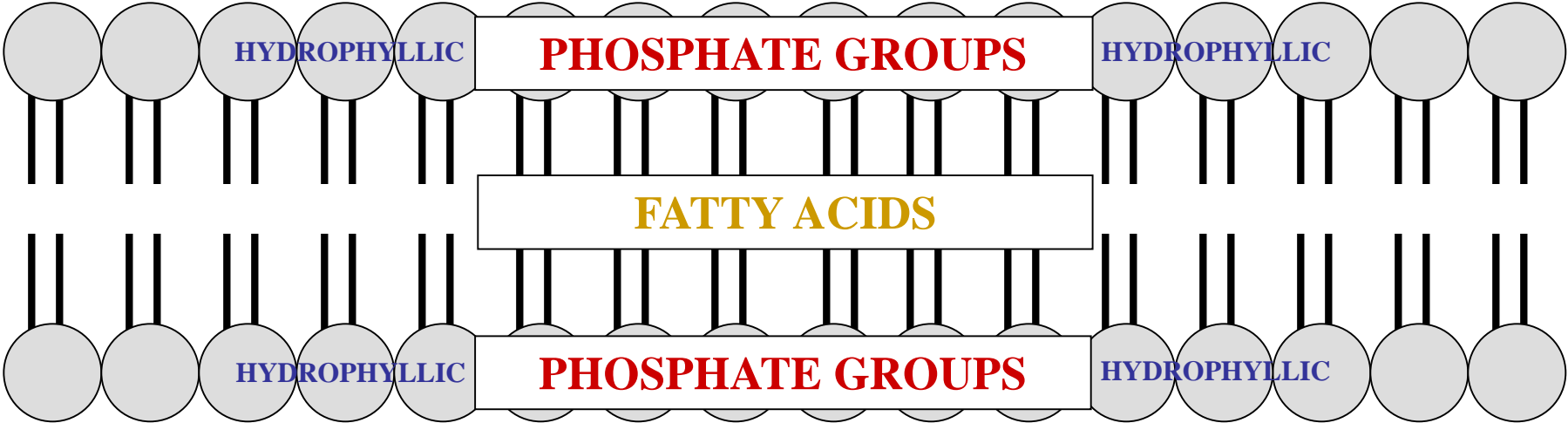
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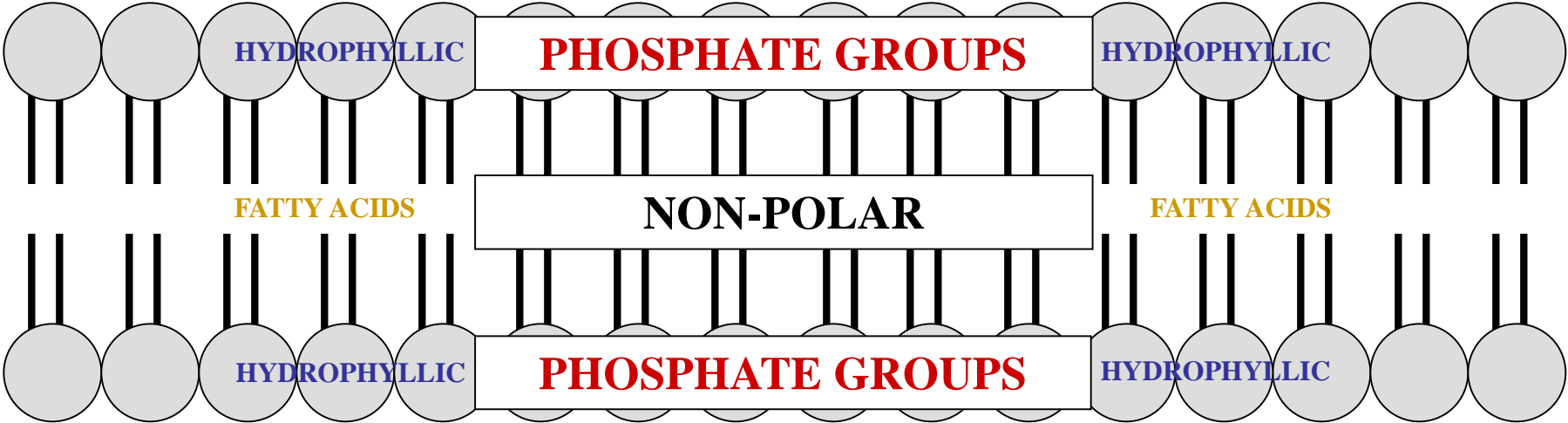
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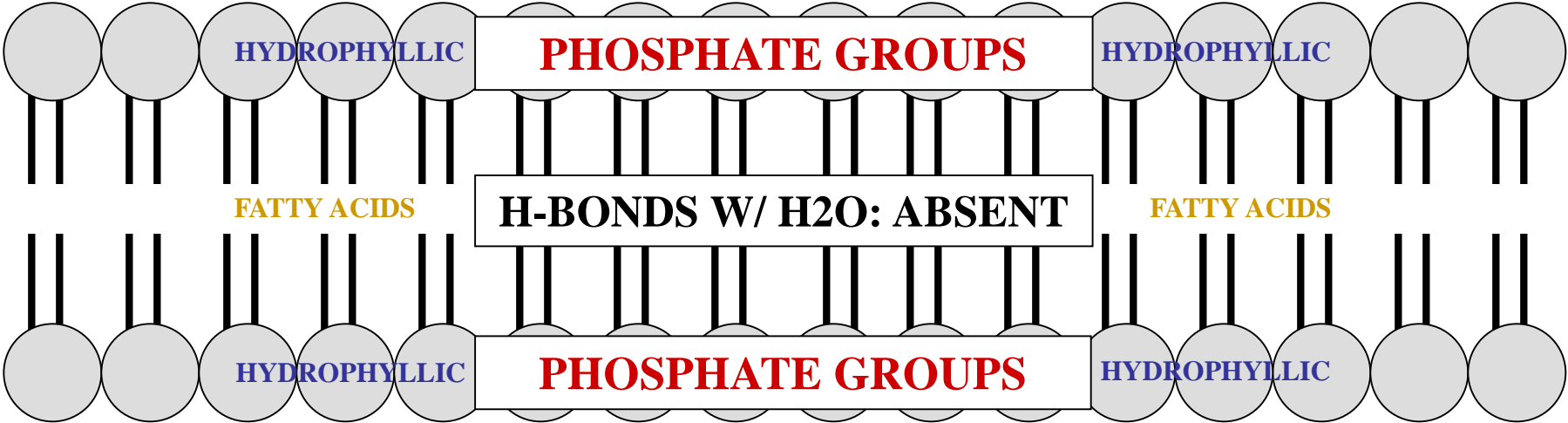
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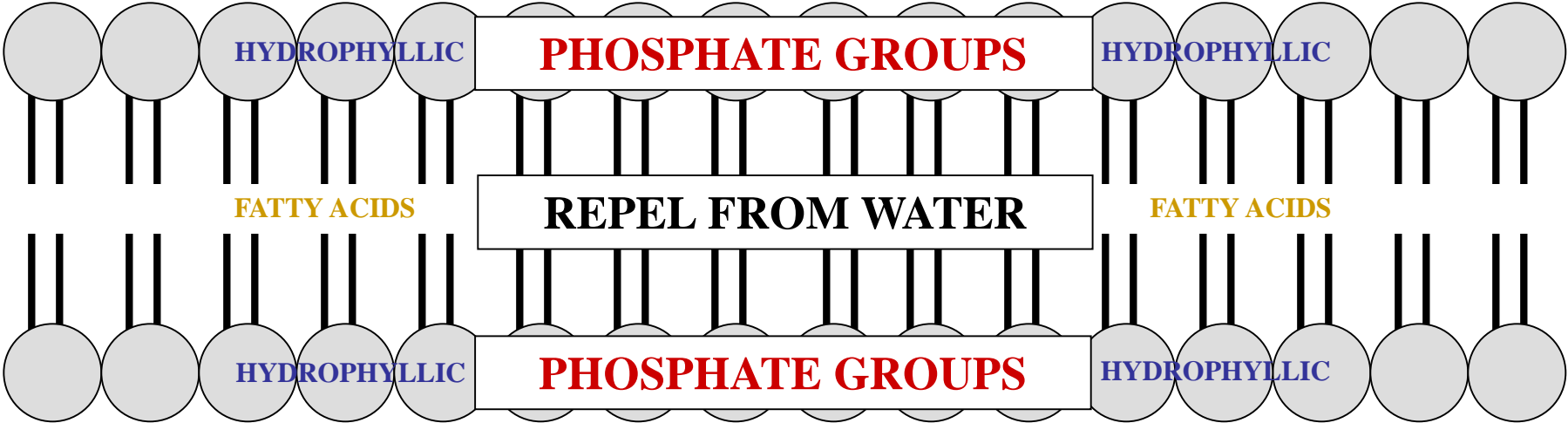
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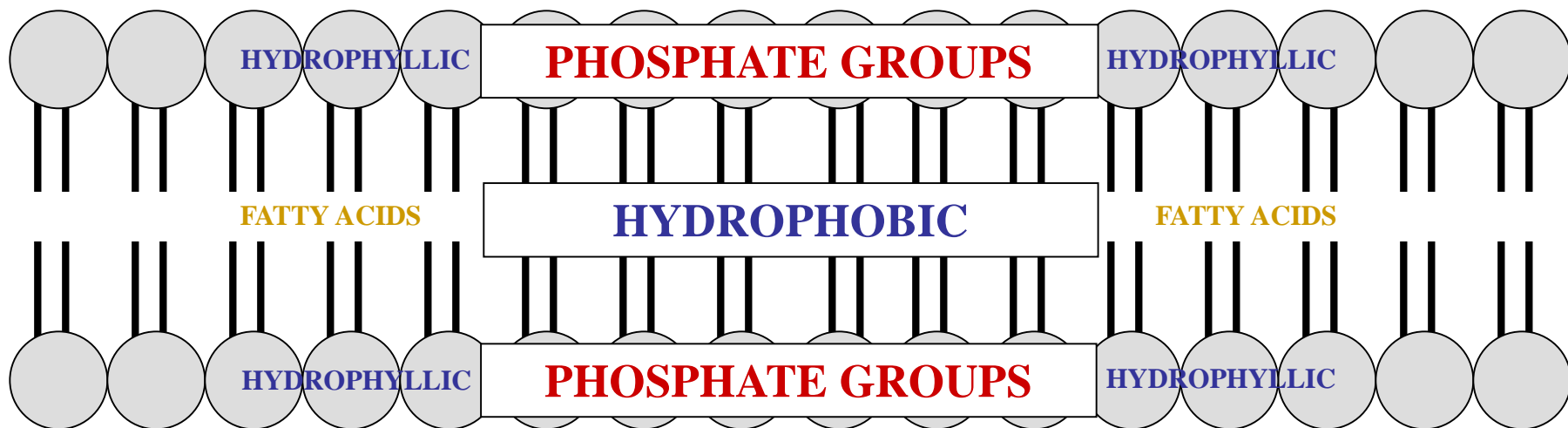
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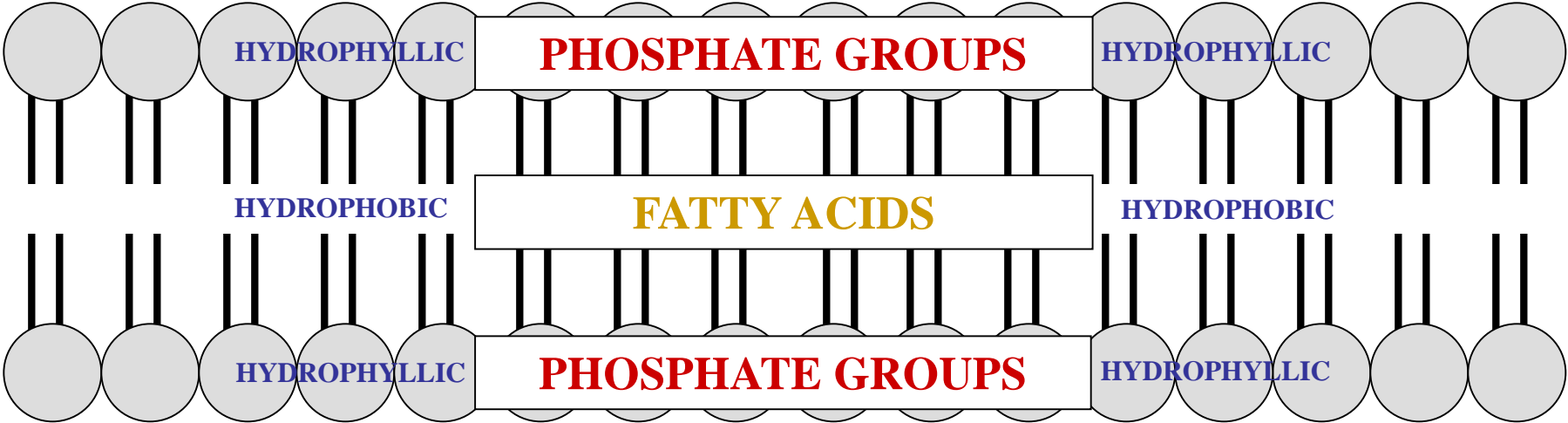
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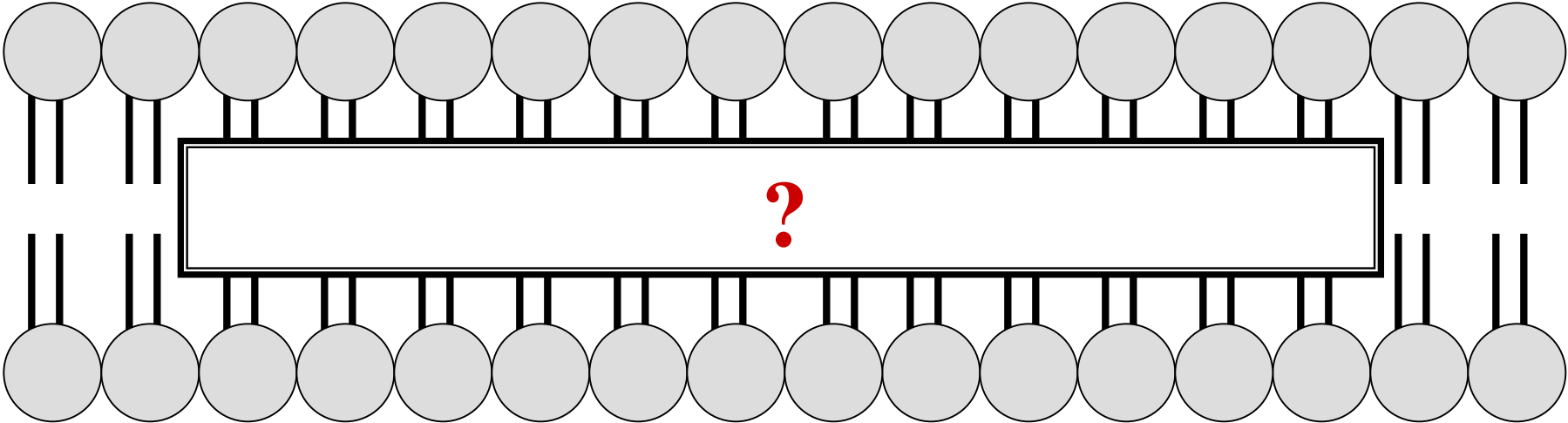
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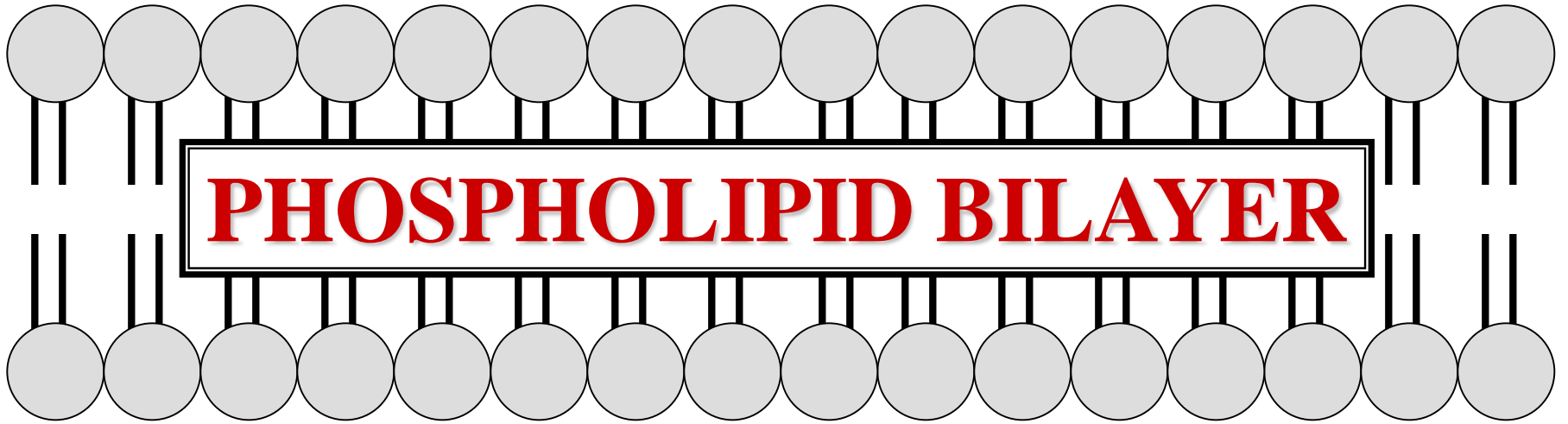
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PHOSPHOLIPID BILAYER

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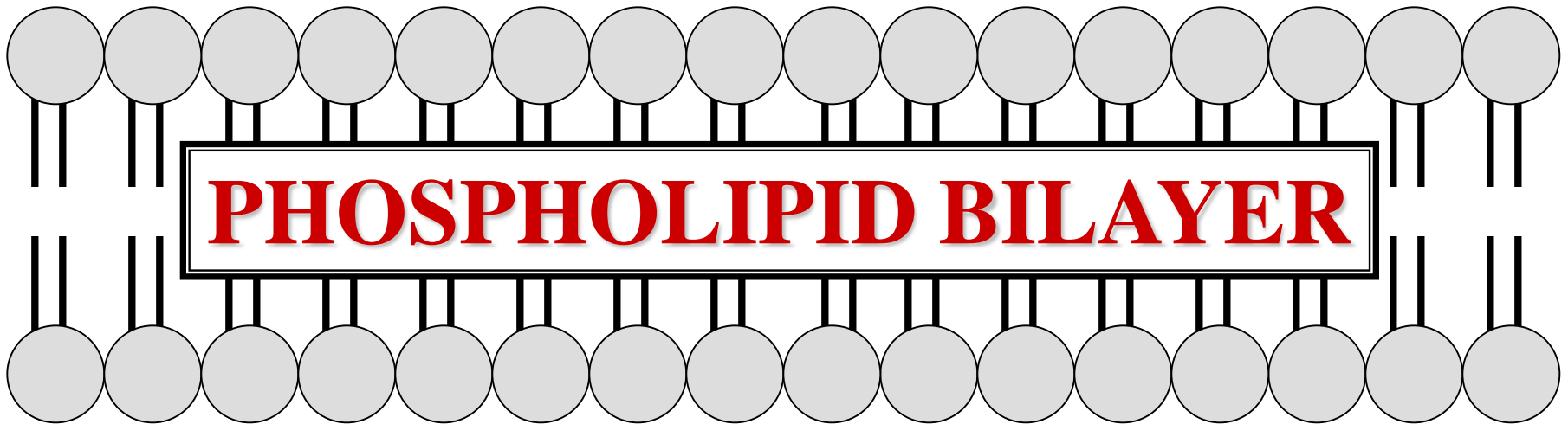
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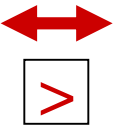
WATER



PHOSPHOLIPID BILAYER

**PRINCIPLE STRUCTURAL
MATRIX
BIO-MEMBRANES**

PHOSPHOLIPIDS



WATER

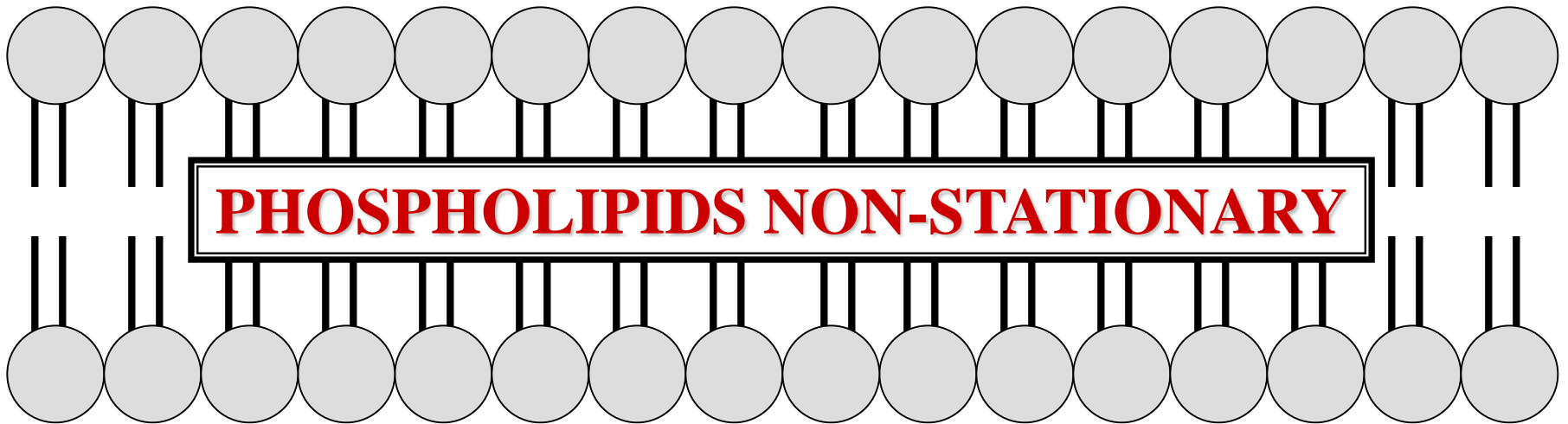
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PHOSPHOLIPIDS NON-STATIONARY

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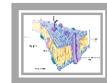
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PHOSPHOLIPIDS

PHOSPHOLIPIDS MOVE FREELY



WATER

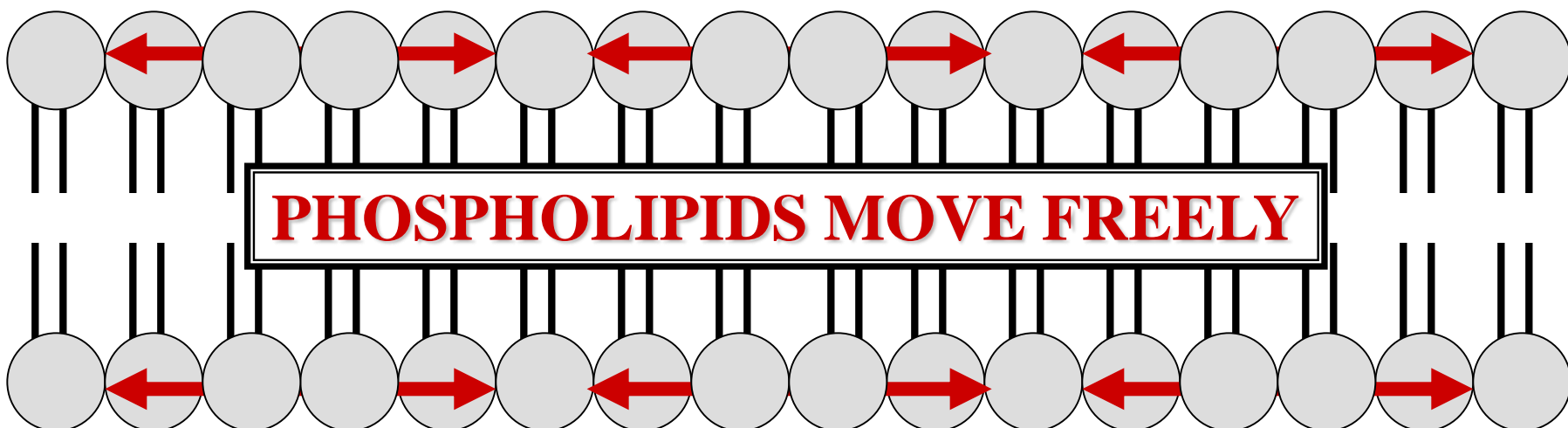
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PHOSPHOLIPIDS MOVE FREELY

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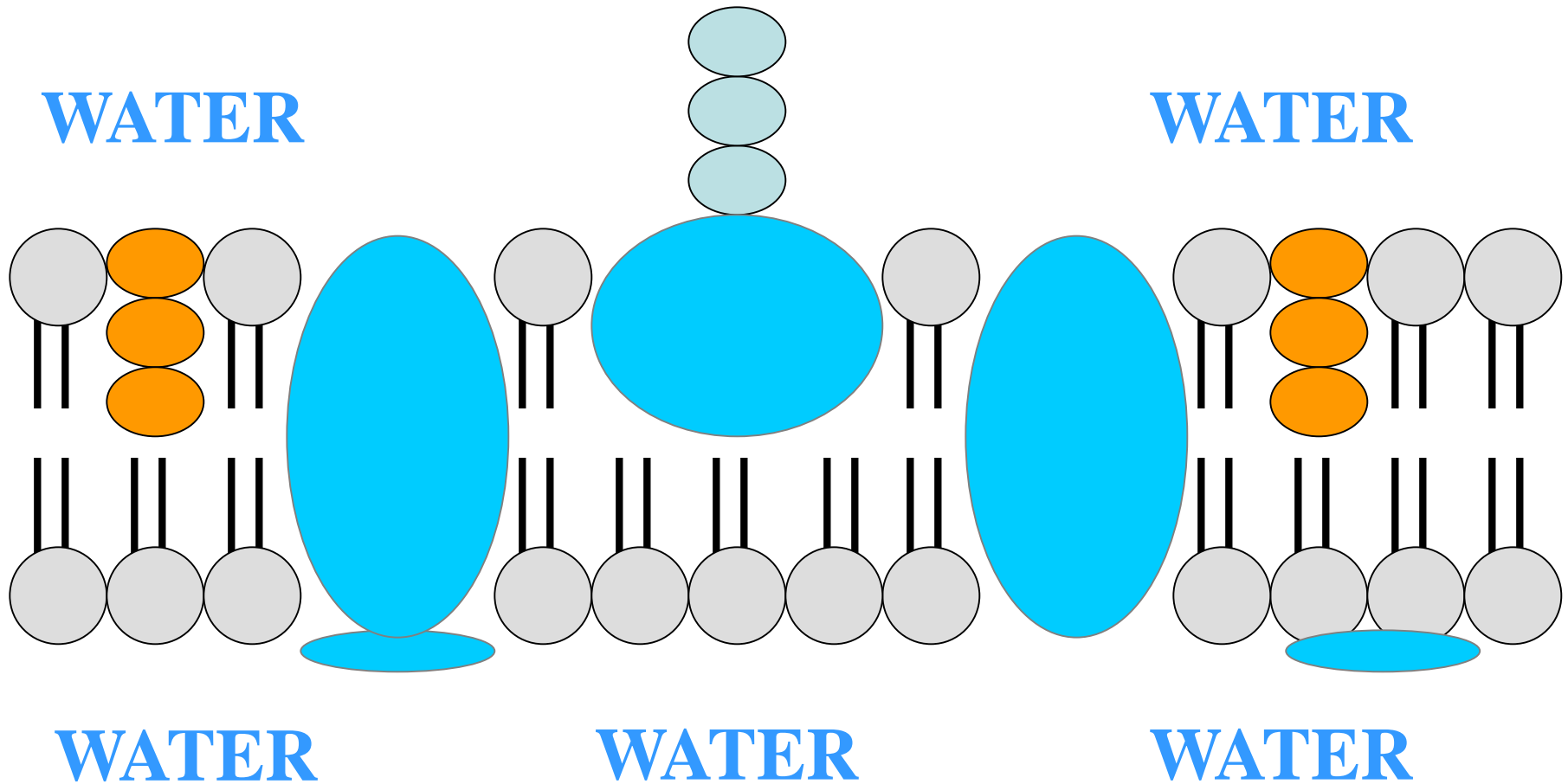
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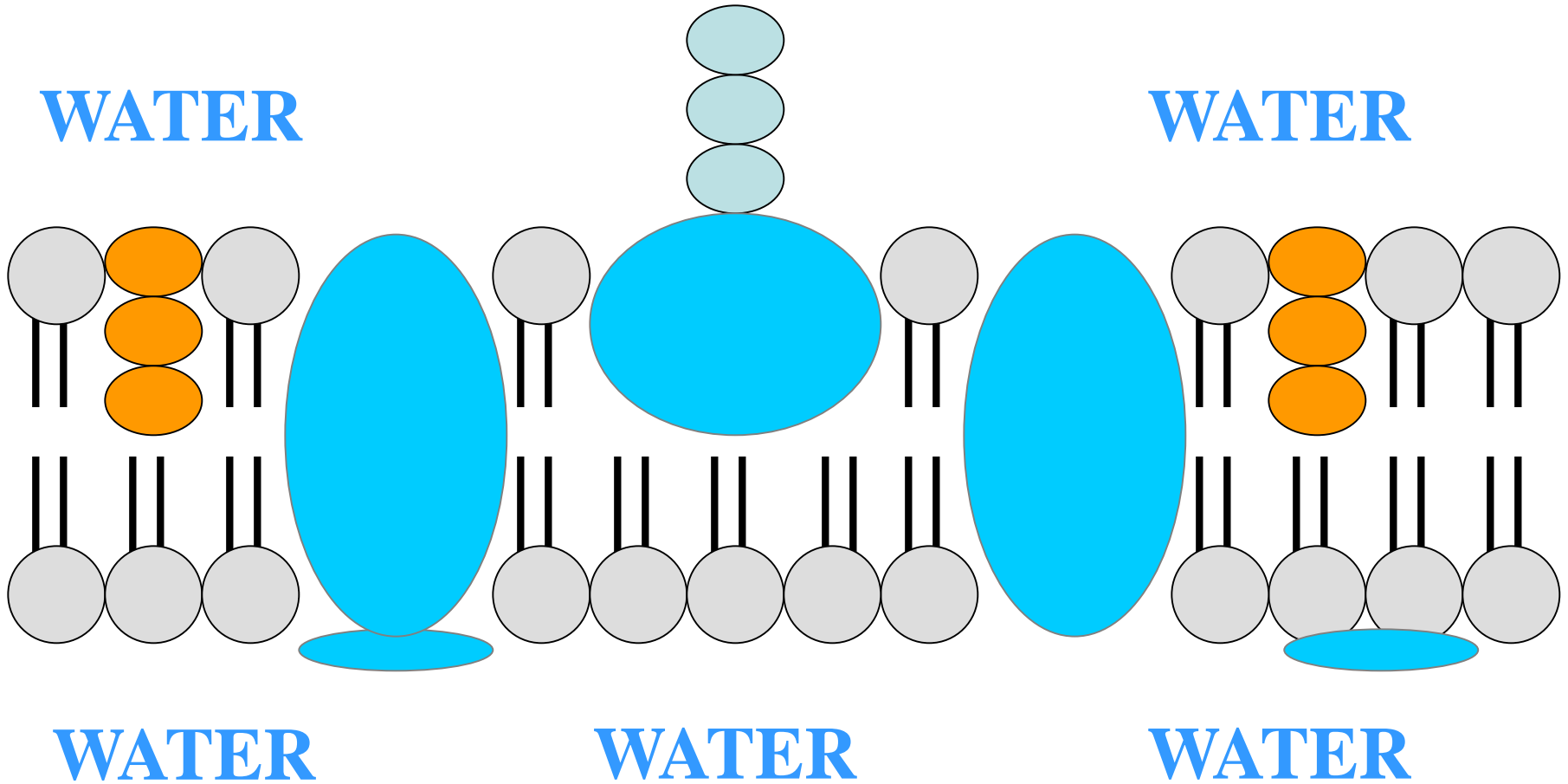
PHOSPHOLIPIDS MOVE FREELY

MEMBRANE STRUCTURE



FLUID MOSAIC MODEL

MEMBRANE STRUCTURE



FLUID MOSAIC MODEL



CHOLESTEROL



WATER

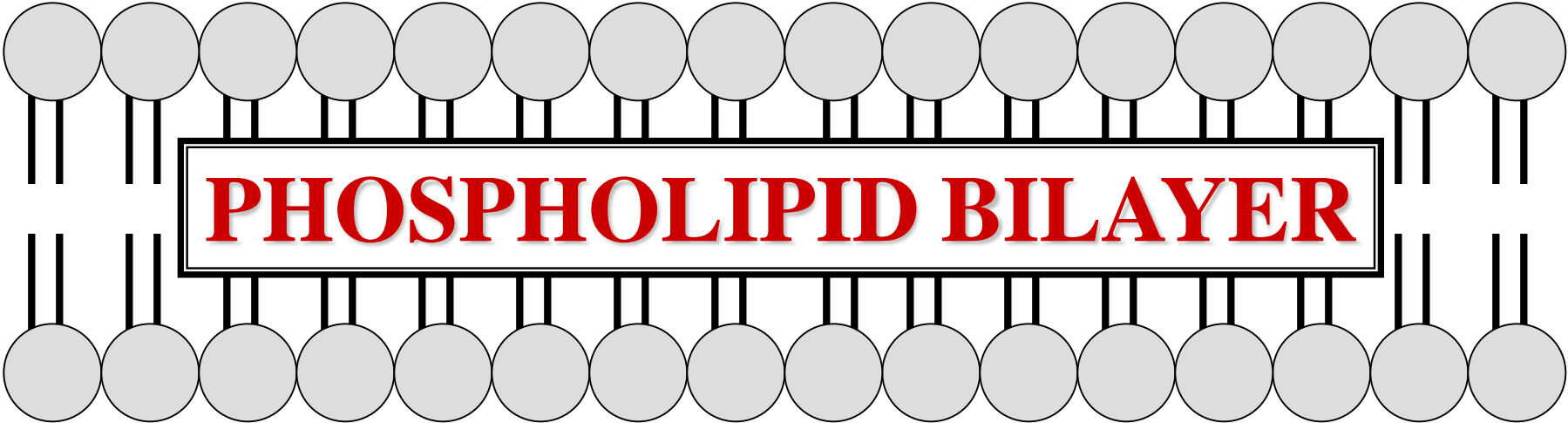
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PHOSPHOLIPID BILAYER

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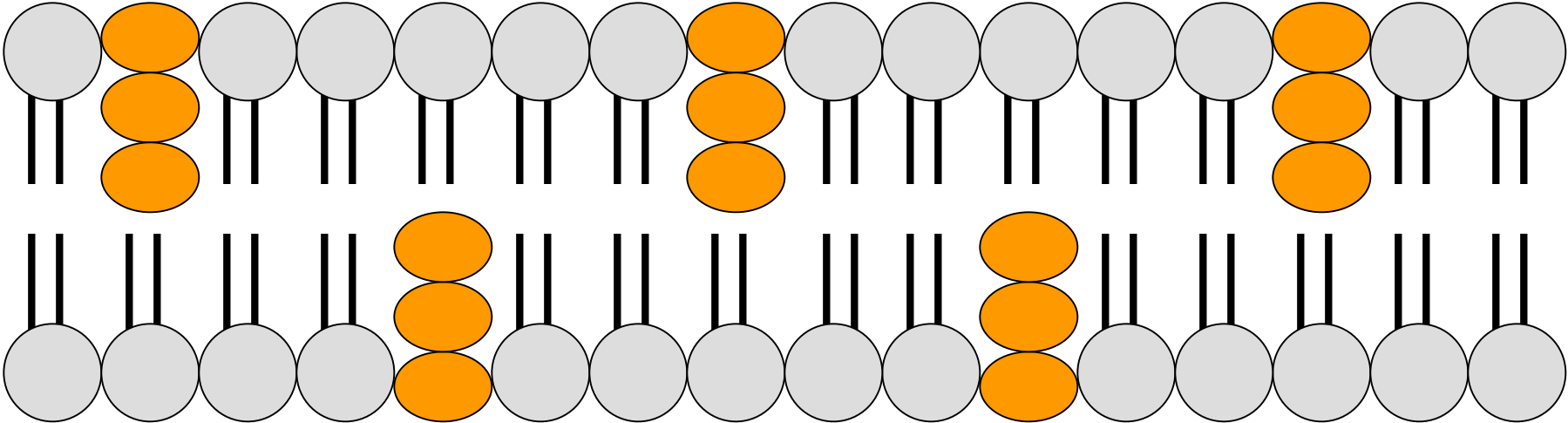
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CHOLESTEROL

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WATER

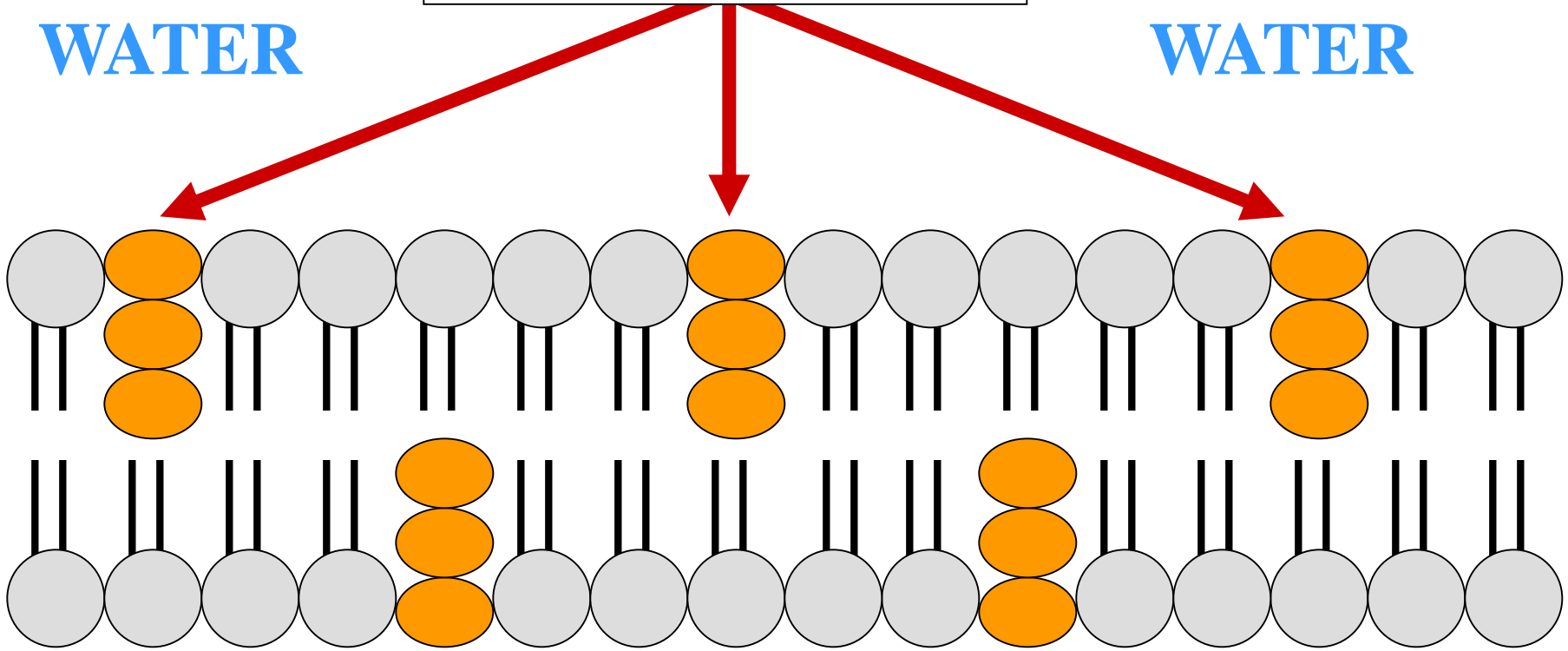
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CHOLESTEROL

CHOLESTEROL

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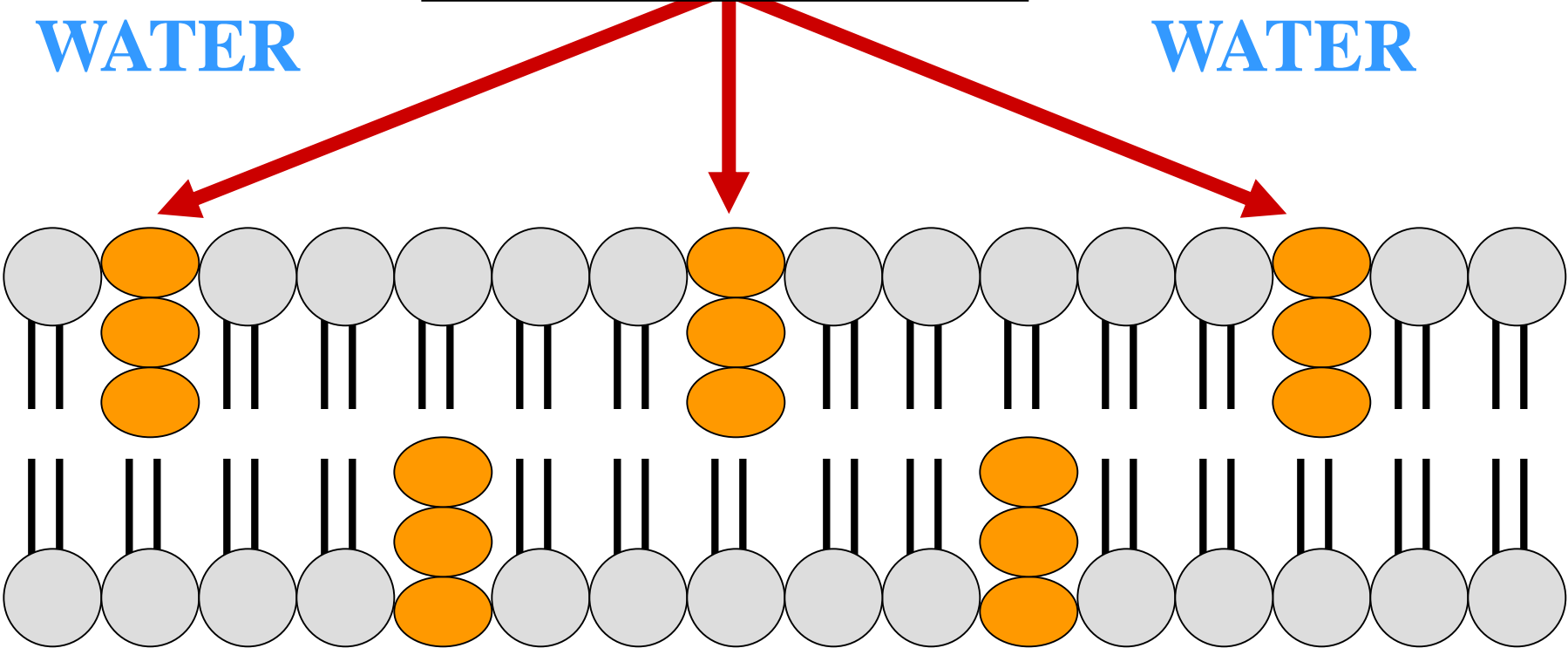


**CHOLESTEROL
EMBEDDED WITHIN
PHOSPHOLIPID BILAYER**

CHOLESTEROL

WATER

WATER



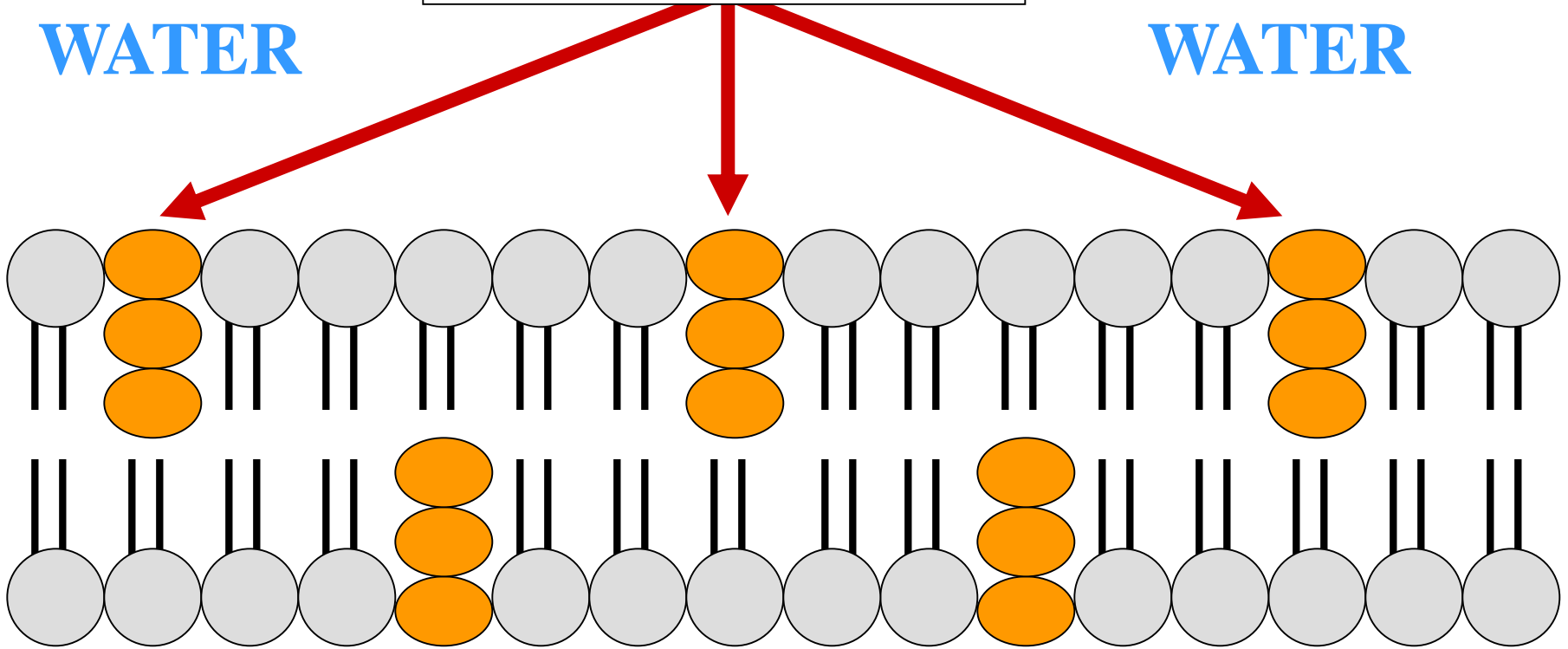
**CHOLESTEROL
INHIBITS MEMBRANE
SOLIDIFICATION**



CHOLESTEROL

WATER

WATER



**CHOLESTEROL
ENSURES MEMBRANE
FUNCTION AT LOW TEMP**





HIGH CHOLESTEROL MEMBRANE CONTENT



L

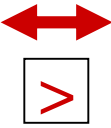


A photograph of a herd of zebras in a savanna landscape. The zebras are in the foreground and middle ground, with some looking towards the camera. The background shows a dry, grassy plain under a clear sky. The text is overlaid in the center of the image.

**LOW
CHOLESTROL
MEMBRANE
CONTENT**



CHOLESTEROL



WATER

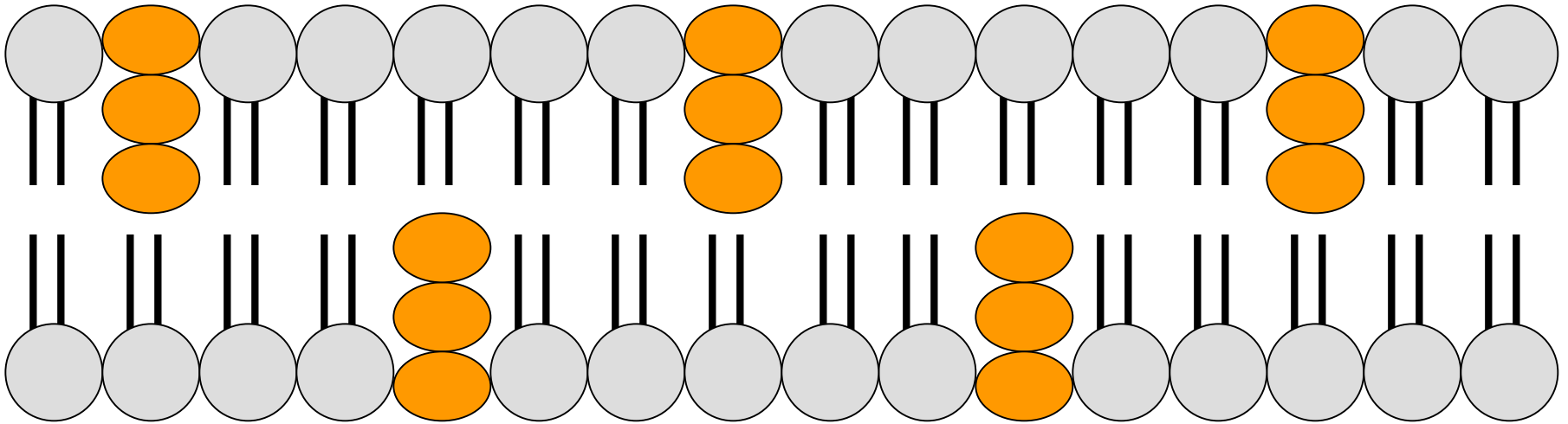
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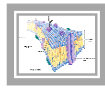
WATER

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CHOLESTEROL

CHOLESTEROL MOVES FREELY



WATER

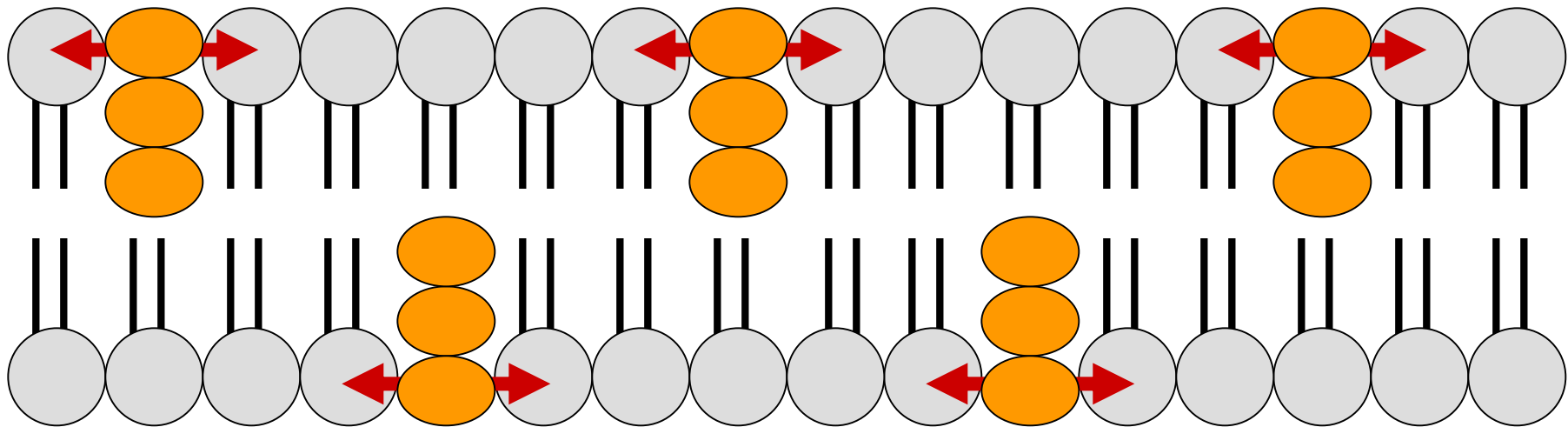
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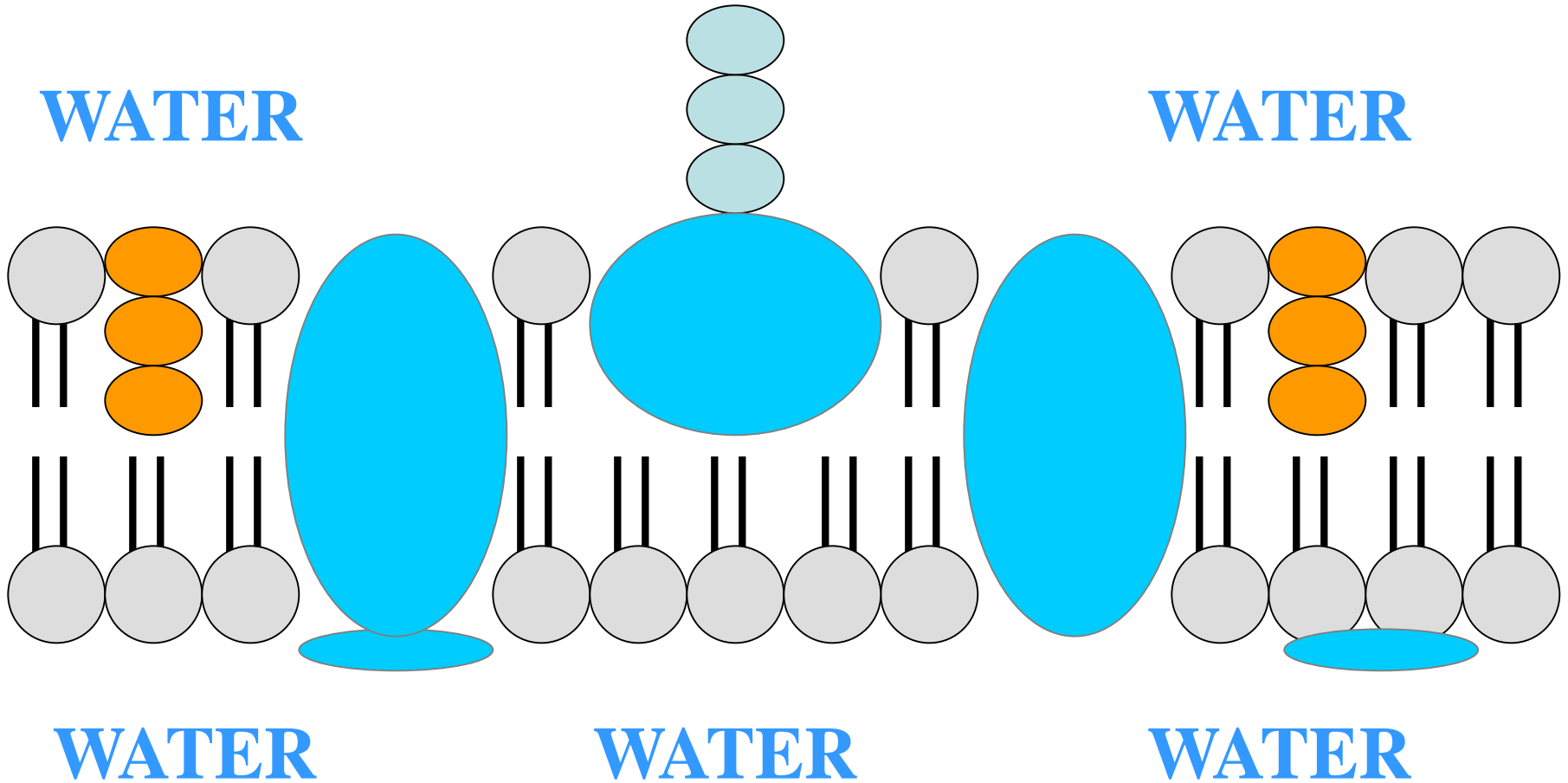
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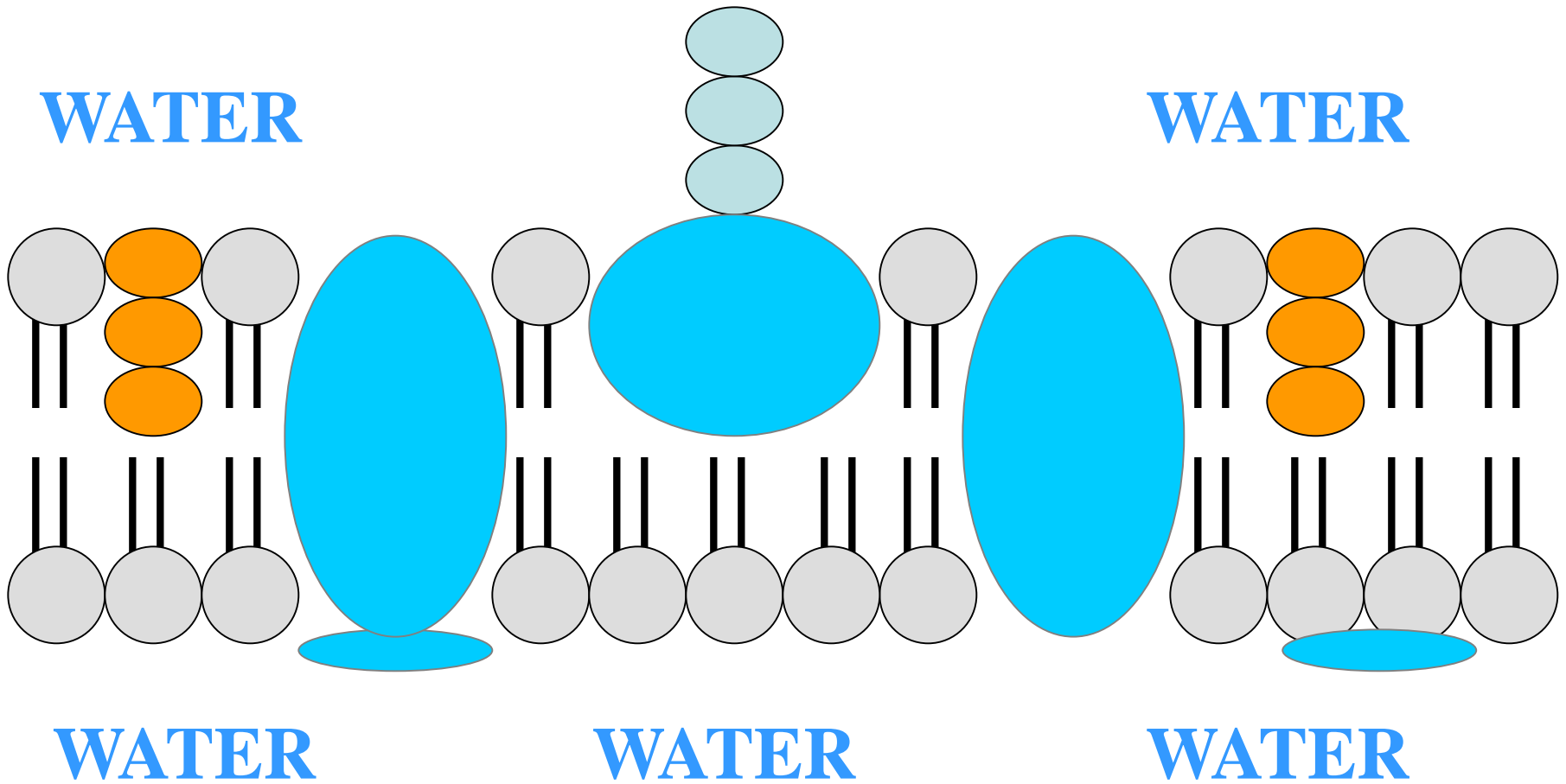
CHOLESTEROL MOVES FREELY

MEMBRANE STRUCTURE



FLUID MOSAIC MODEL

MEMBRANE STRUCTURE



FLUID MOSAIC MODEL



PROTEINS

MEMBRANE PROTEIN TYPES

MEMBRANE PROTEIN TYPES

INTEGRAL PROTEINS

MEMBRANE PROTEIN TYPES

MEMBRANE PROTEIN TYPES



INTEGRAL PROTEINS
PERIPHERAL PROTEINS

MEMBRANE PROTEIN
TYPES

INTEGRAL MEMBRANE PROTEINS

**INTEGRAL
MEMBRANE
PROTEINS**

INTEGRAL PROTEINS



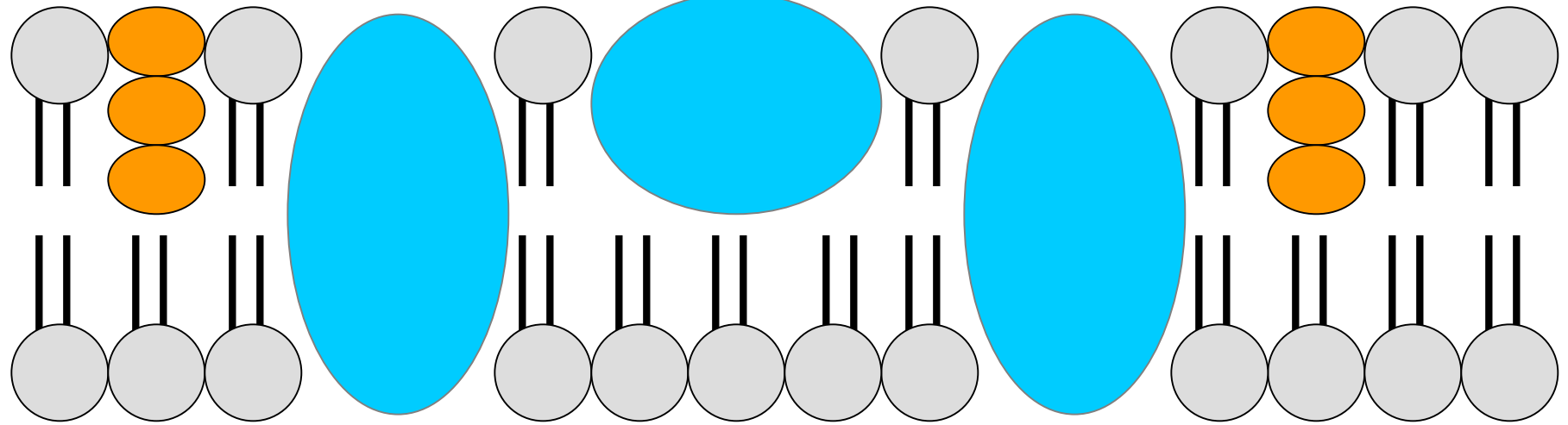
PROTEINS EMBEDDED
WITHIN
PHOSPHOLIPID BILAYER

INTEGRAL PROTEINS

PROTEINS

WATER

WATER



WATER

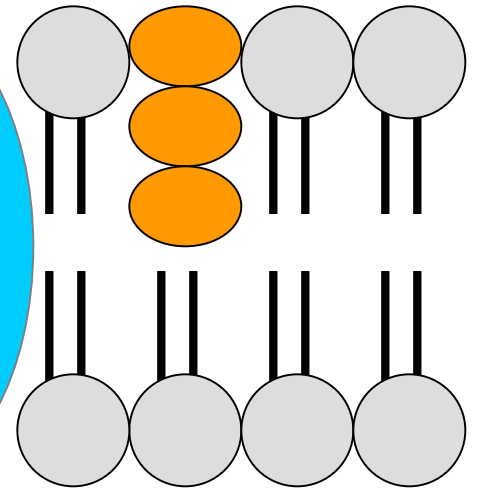
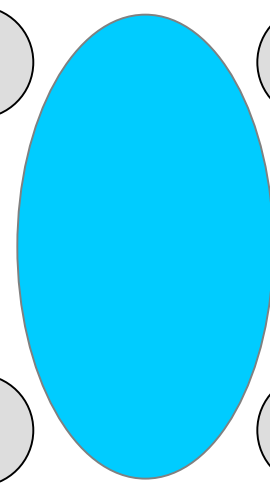
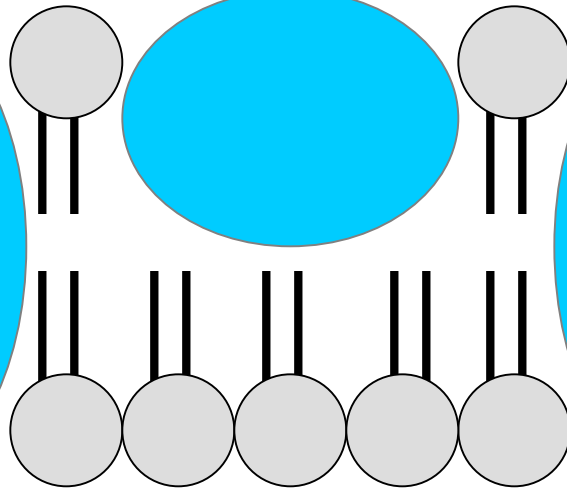
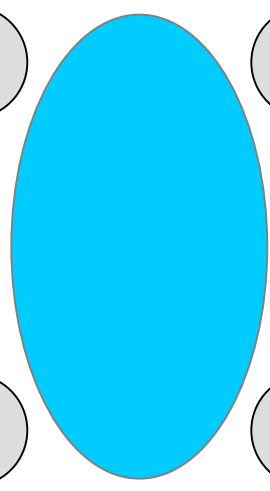
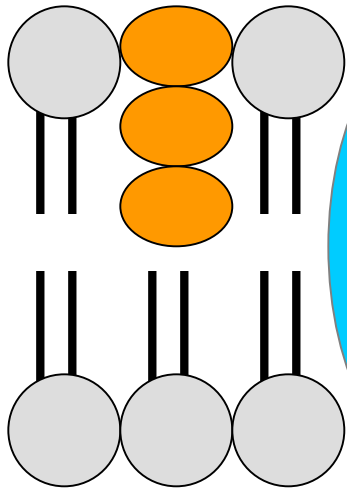
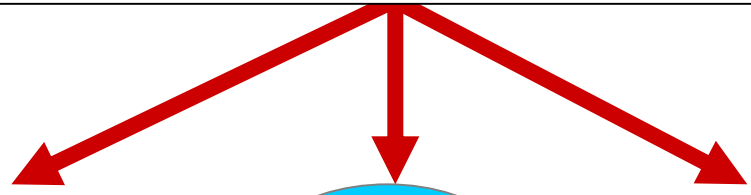
WATER

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INTEGRAL PROTEINS

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INTEGRAL MEMBRANE PROTEINS TYPES

**INTEGRAL
MEMBRANE PROTEIN
TYPES**

UNILATERAL INTEGRAL PROTEINS

**INTEGRAL
MEMBRANE PROTEIN
TYPES**

INTEGRAL MEMBRANE PROTEIN TYPES

UNILATERAL INTEGRAL PROTEINS
BILATERAL INTEGRAL PROTEINS

INTEGRAL MEMBRANE PROTEIN TYPES

**UNILATERAL
INTEGRAL
PROTEIN**

UNILATERAL INTEGRAL PROTEIN



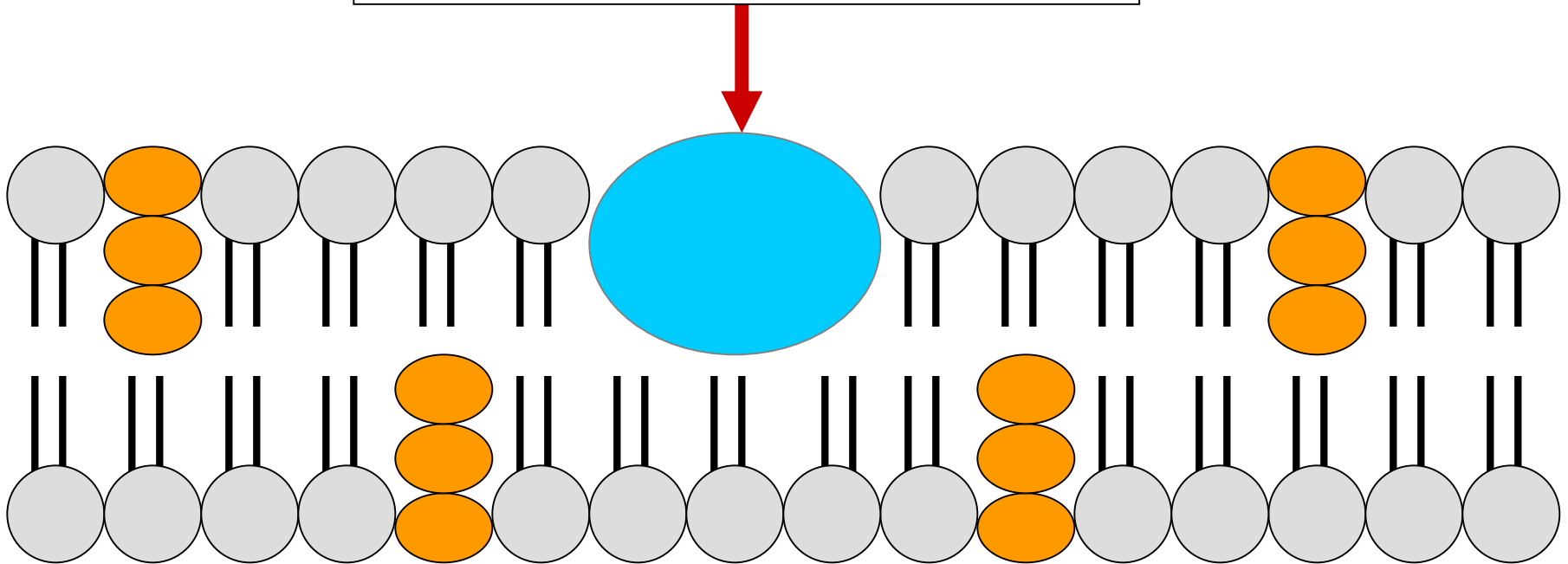
INCOMPLETELY SPANS
MEMBRANE

UNILATERAL INTEGRAL
PROTEIN

WATER

INTEGRAL PROTEIN

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WATER

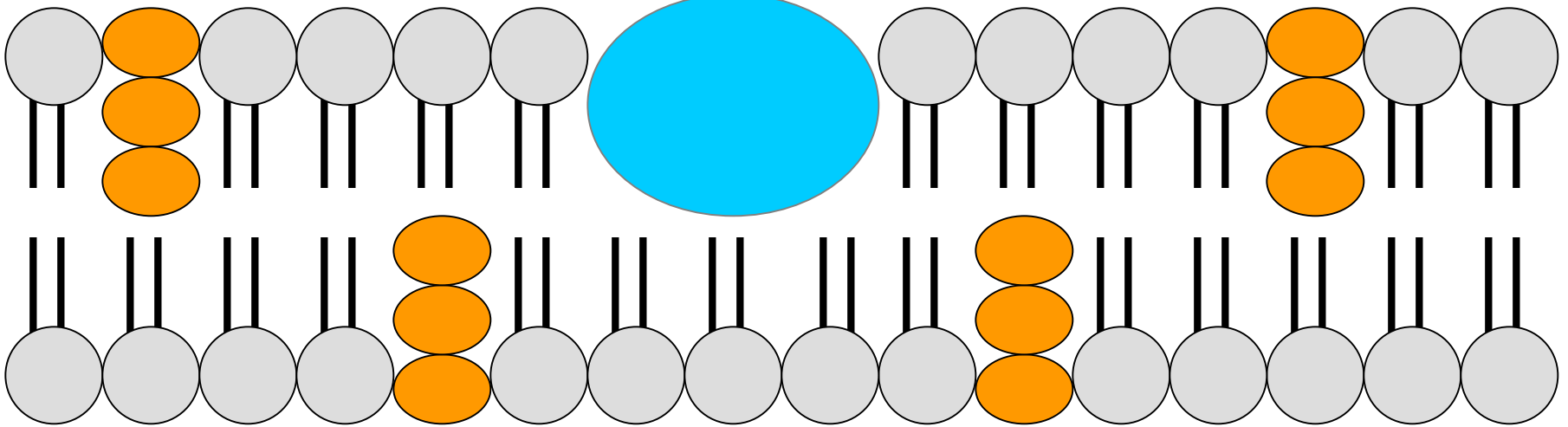
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**UNILATERAL
INTEGRAL PROTEIN**

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**BILATERAL
INTEGRAL
PROTEIN**

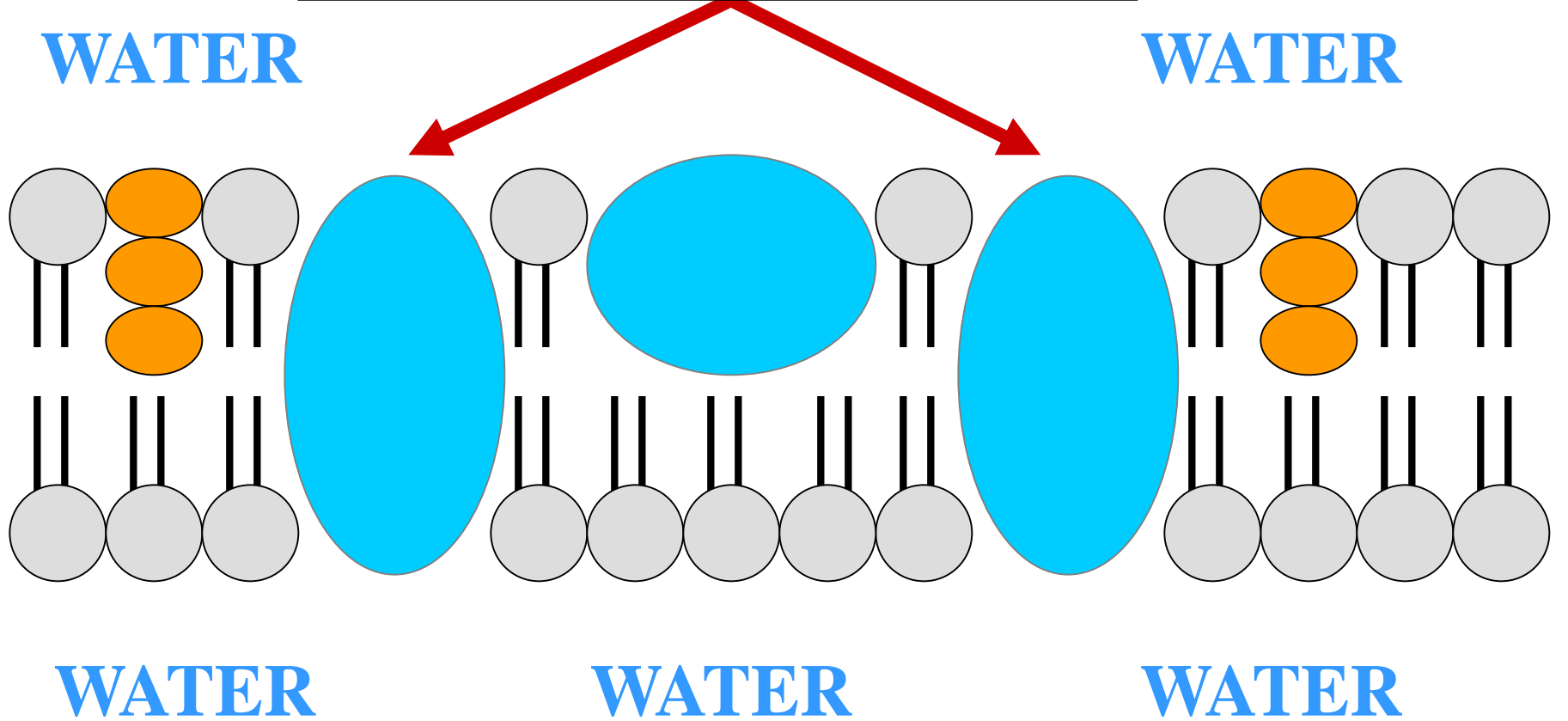
BILATERAL INTEGRAL PROTEIN



**COMPLETELY SPANS
MEMBRANE**

**BILATERAL INTEGRAL
PROTEIN**

INTEGRAL PROTEINS



BILATERAL INTEGRAL PROTEINS

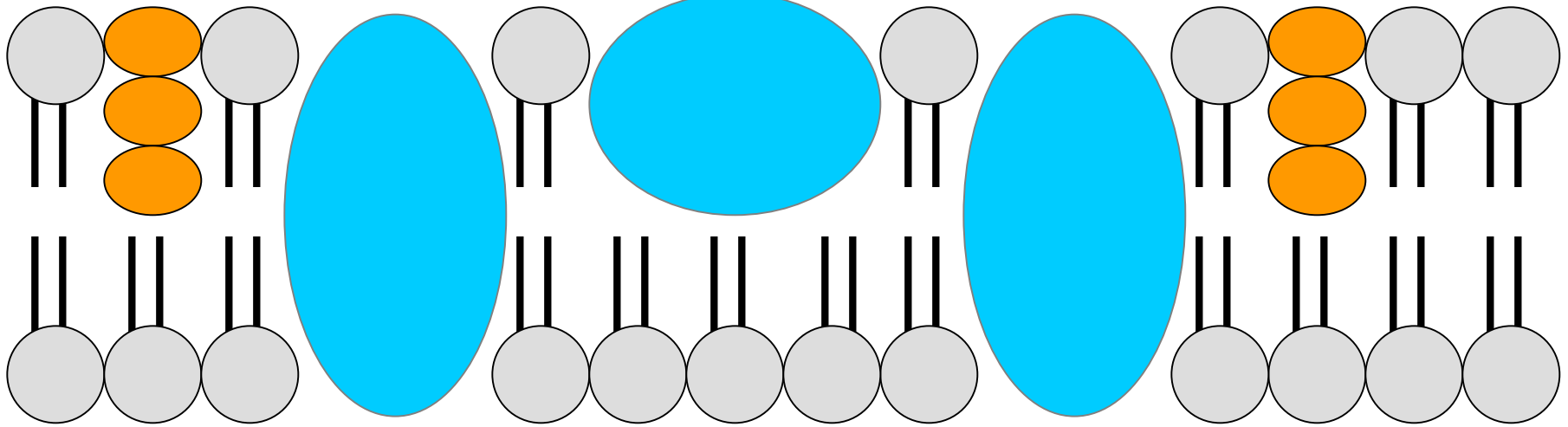
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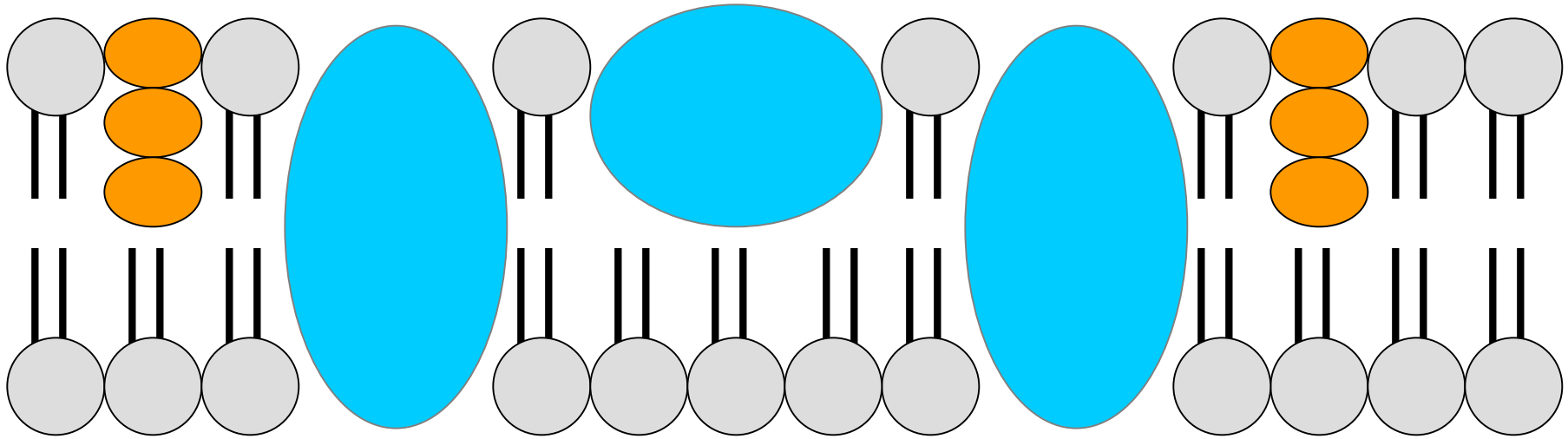
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UNILATERAL & BILATERAL INTEGRAL PROTEINS

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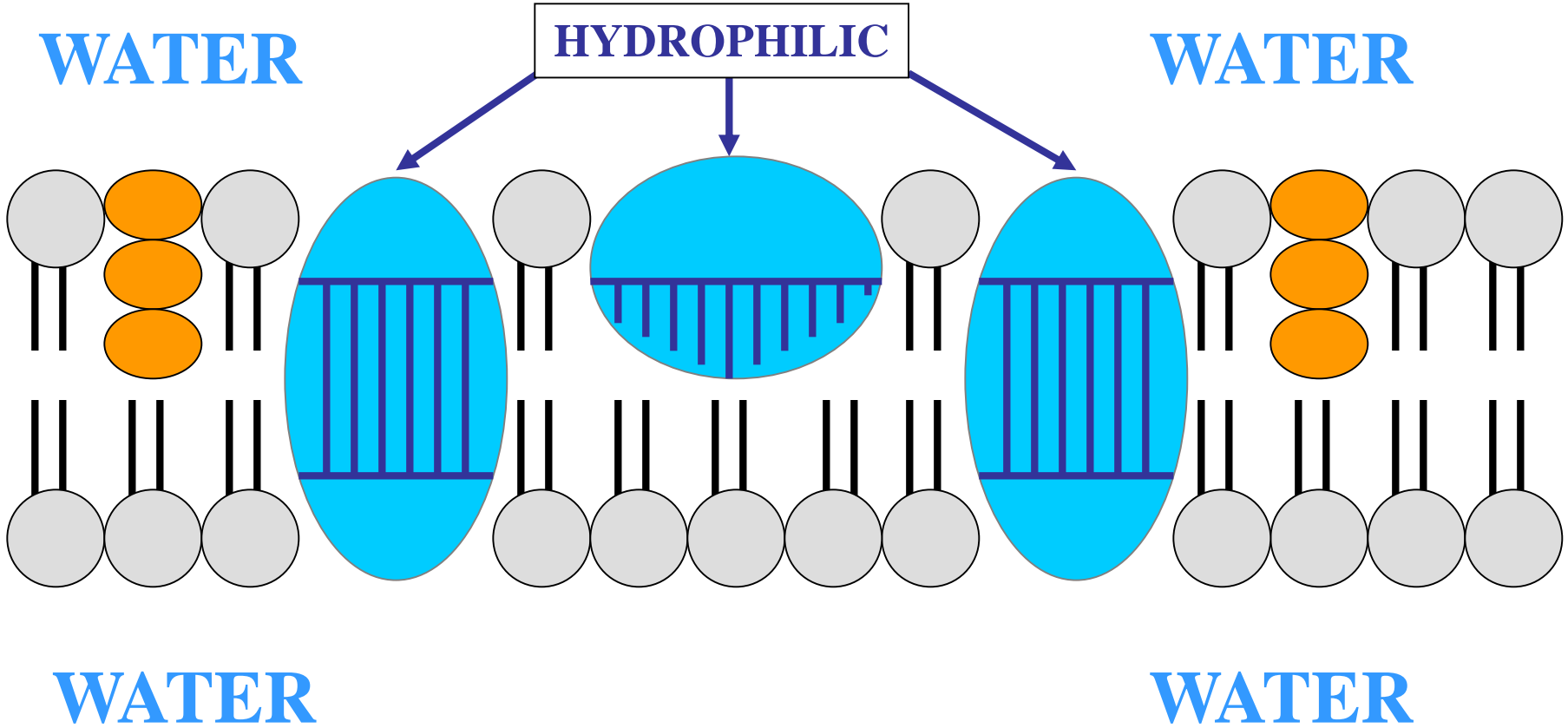


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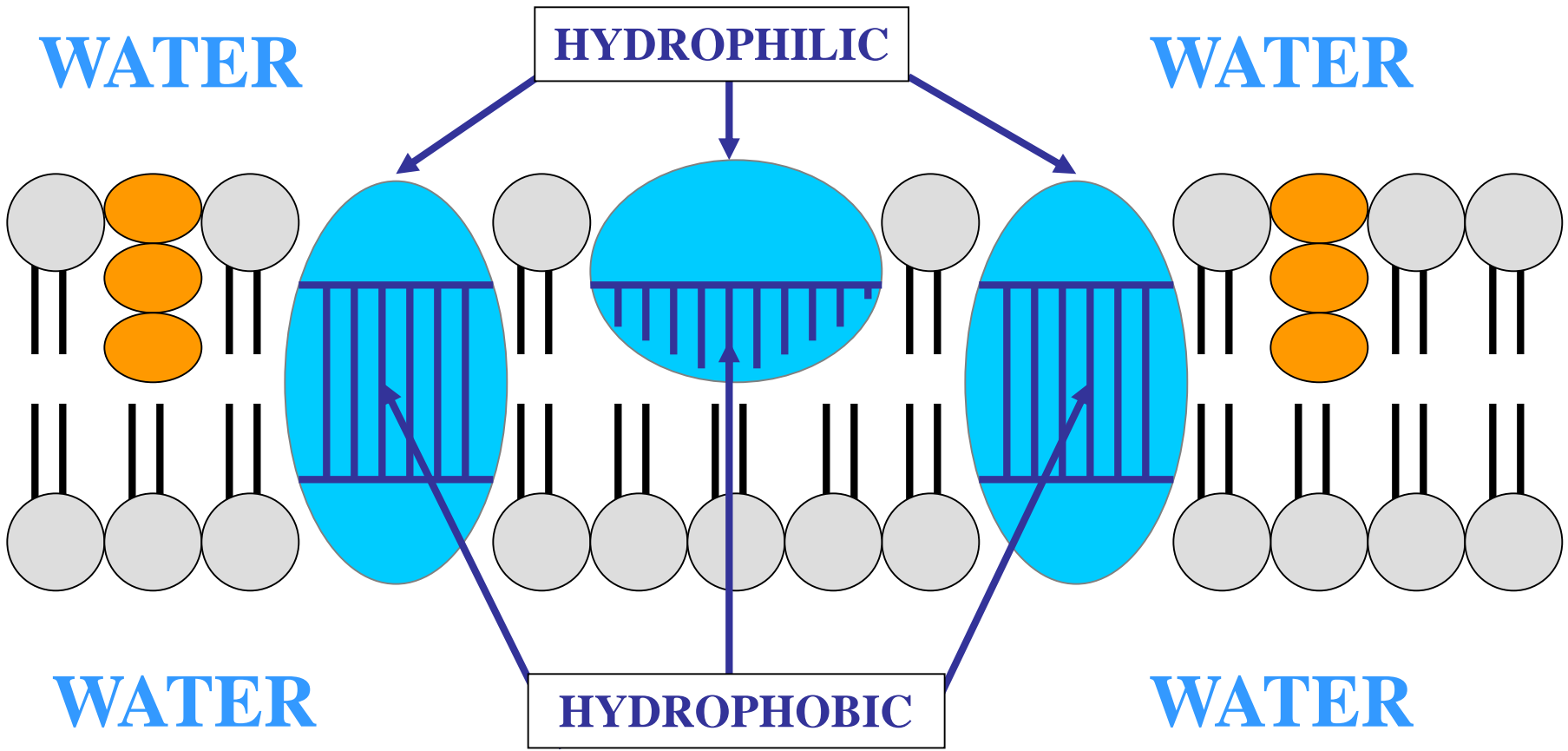
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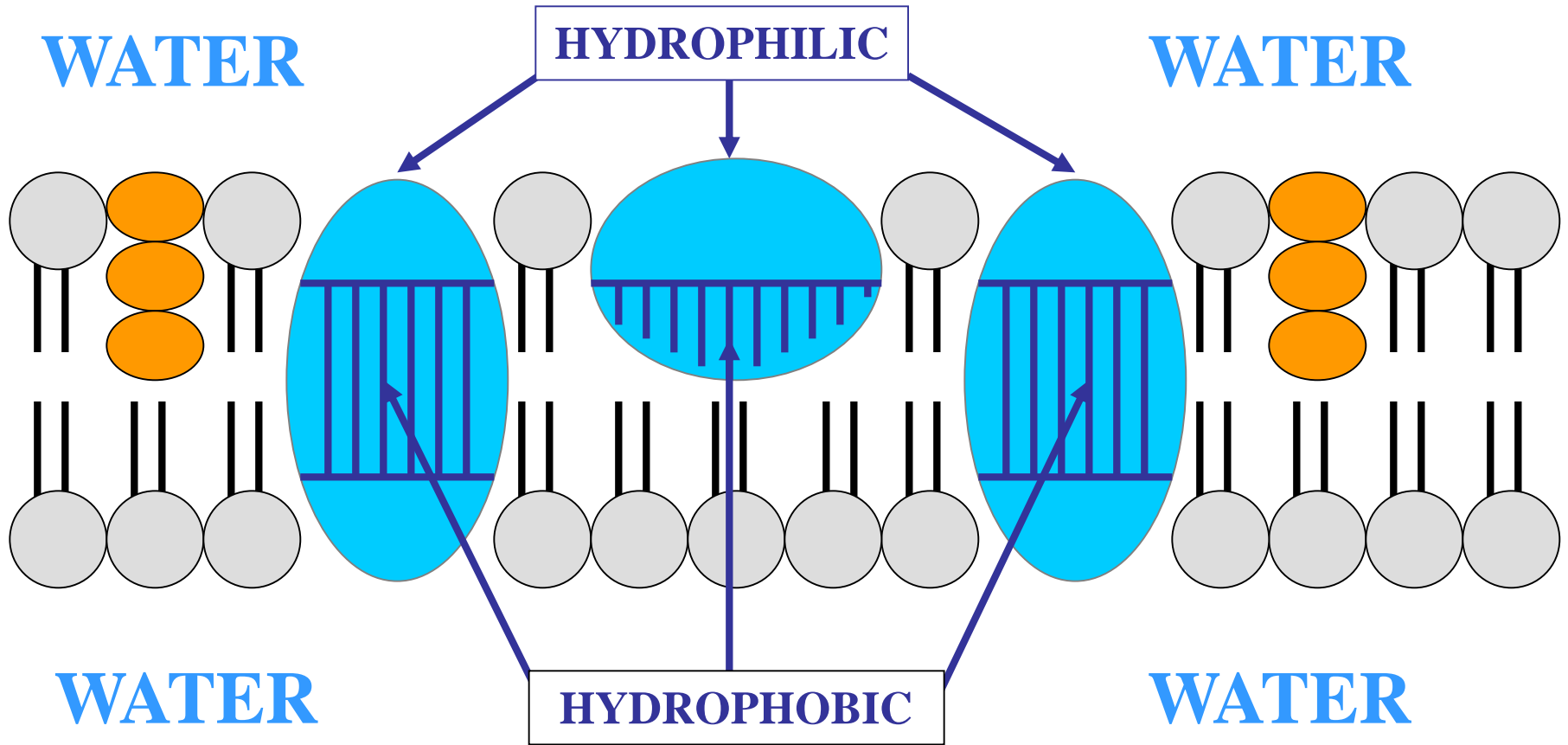
UNILATERAL & BILATERAL INTEGRAL PROTEINS



UNILATERAL & BILATERAL INTEGRAL PROTEINS



UNILATERAL & BILATERAL INTEGRAL PROTEINS



AMPHIPATHIC PROTEINS

PERIPHERAL MEMBRANE PROTEINS

**PERIPHERAL
MEMBRANE
PROTEINS**



PERIPHERAL PROTEINS

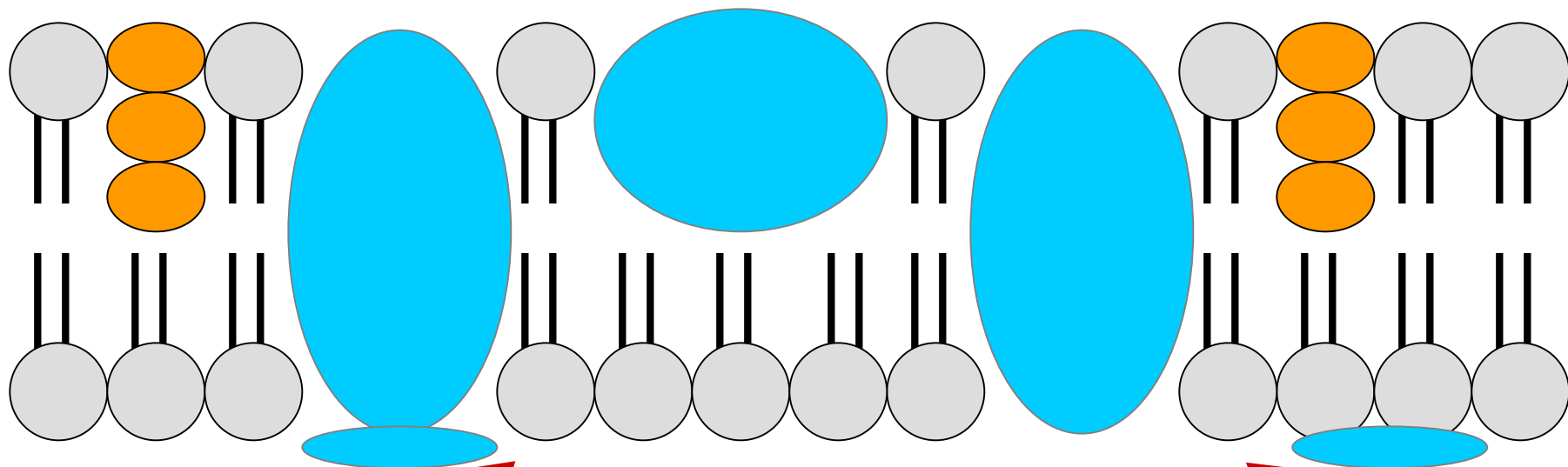
**PROTEINS NOT EMBEDDED
WITHIN
PHOSPHOLIPID BILAYER**

PERIPHERAL PROTEINS

WATER

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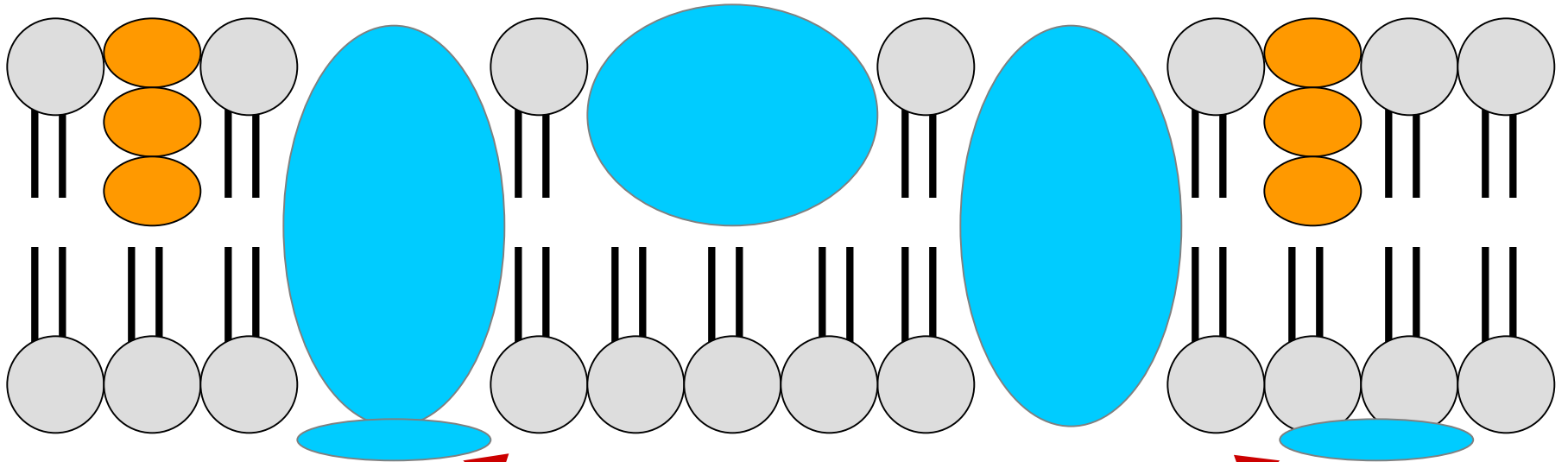
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PROTEINS

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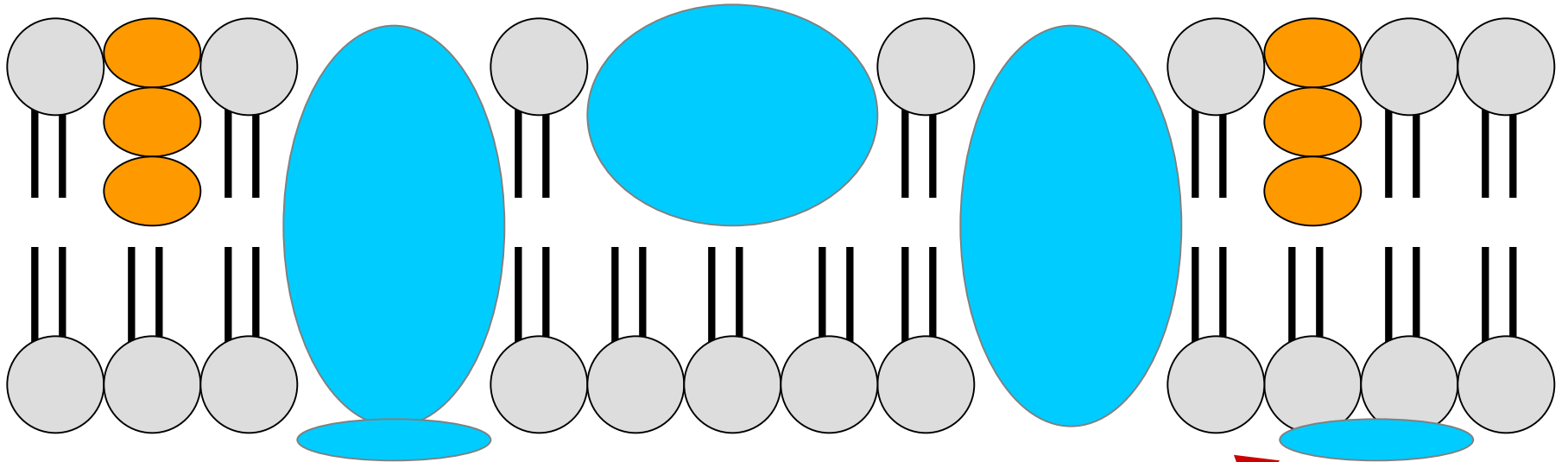
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PERIPHERAL PROTEINS

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**PERIPHERAL PROTEIN
BONDED PHOSPHOLIPIDS**

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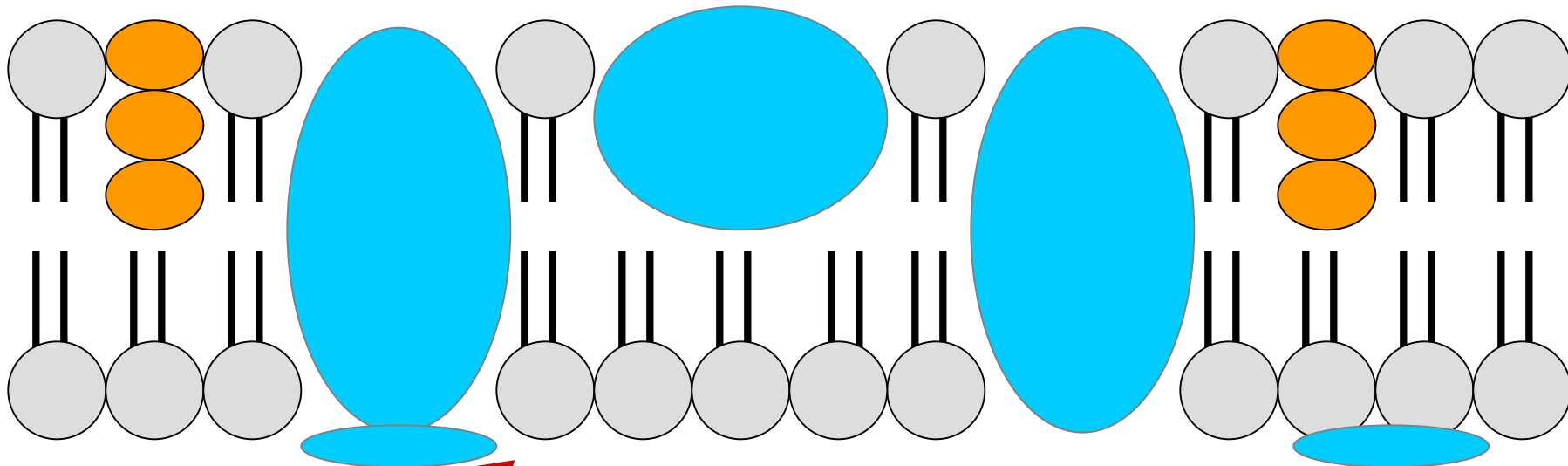
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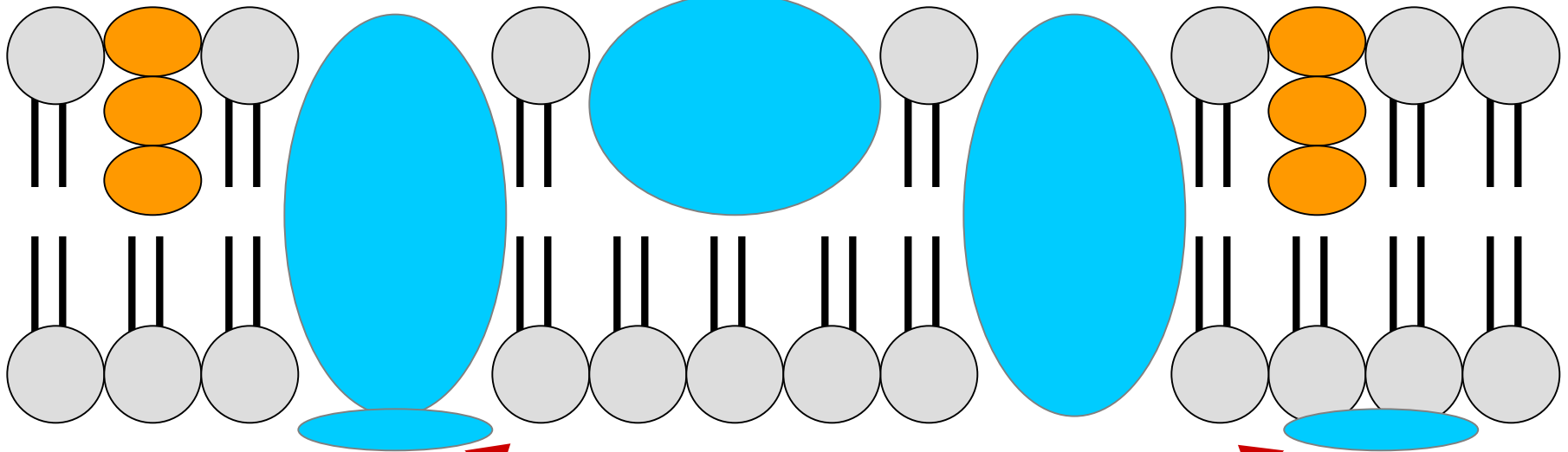
**PERIPHERAL PROTEIN
BONDED INTEGRAL PROTEIN**

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INTEGRAL PROTEINS

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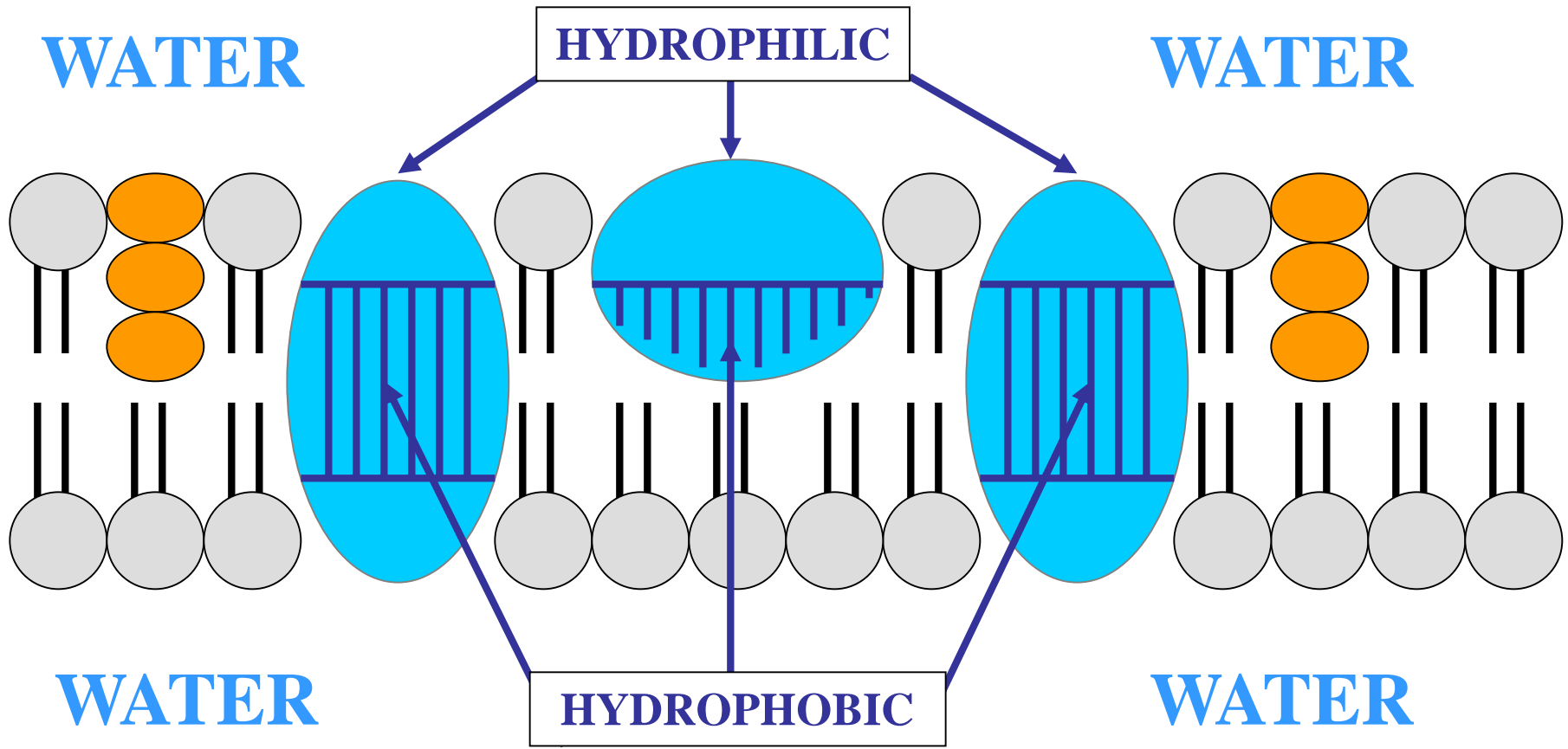
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PERIPHERAL PROTEINS

UNILATERAL & BILATERAL INTEGRAL PROTEINS

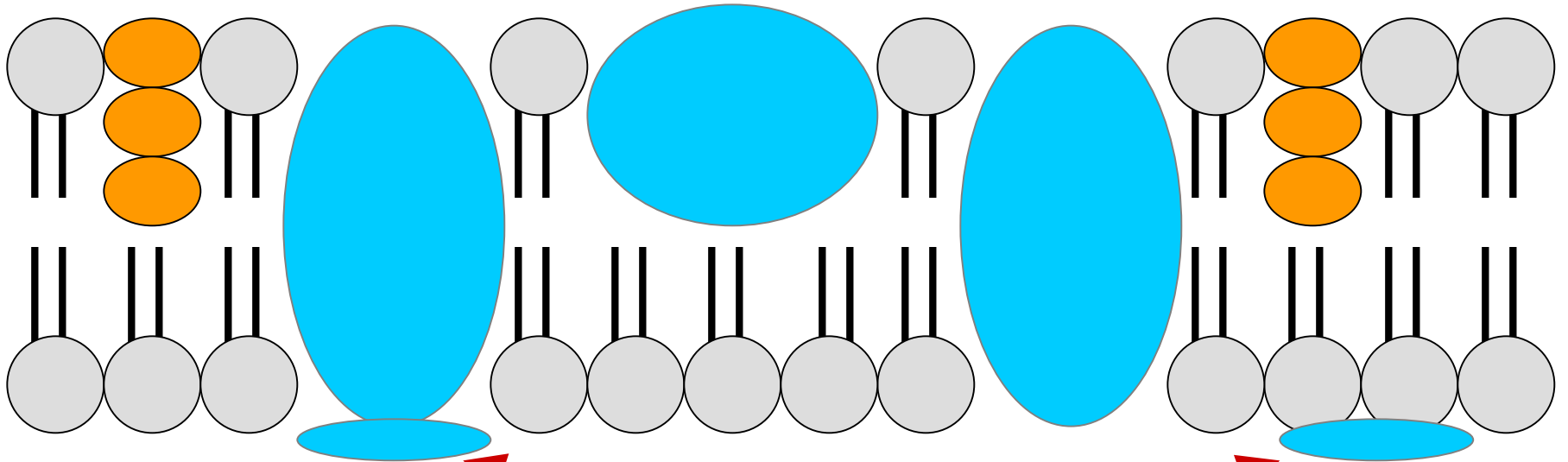


AMPHIPATHIC PROTEINS

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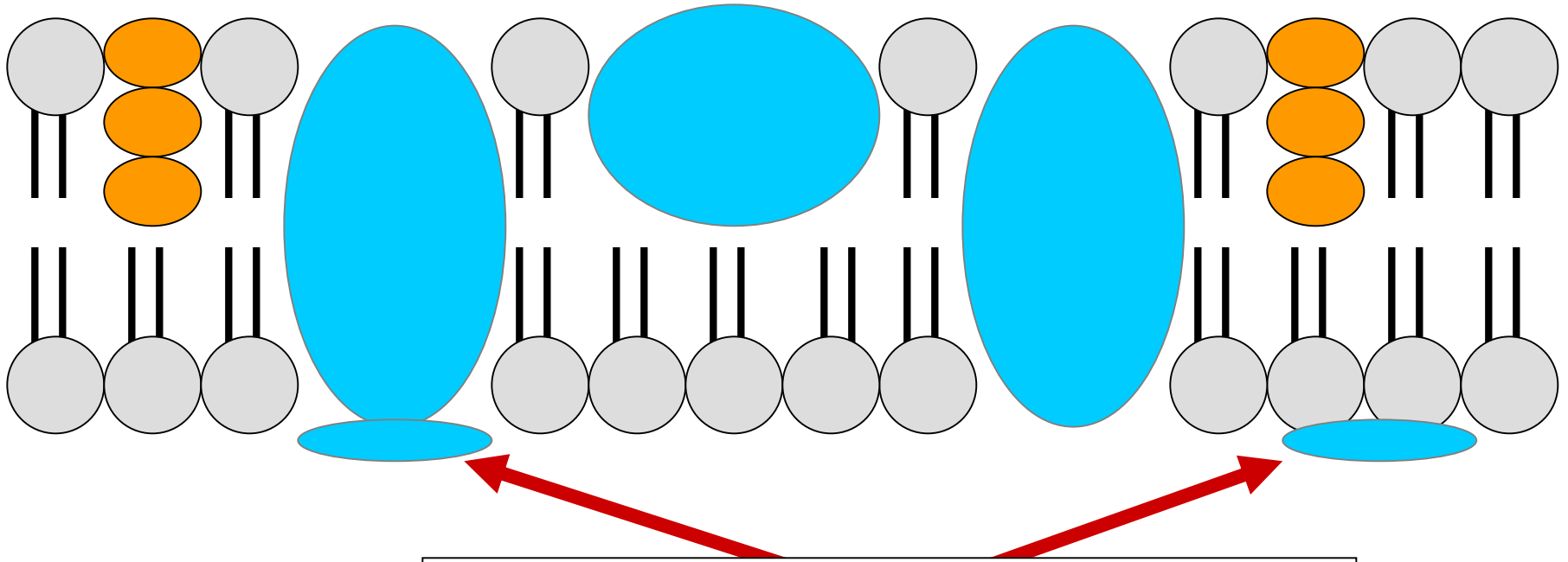
PERIPHERAL PROTEINS

HYDROPHOBIC COMPONENT: ABSENT

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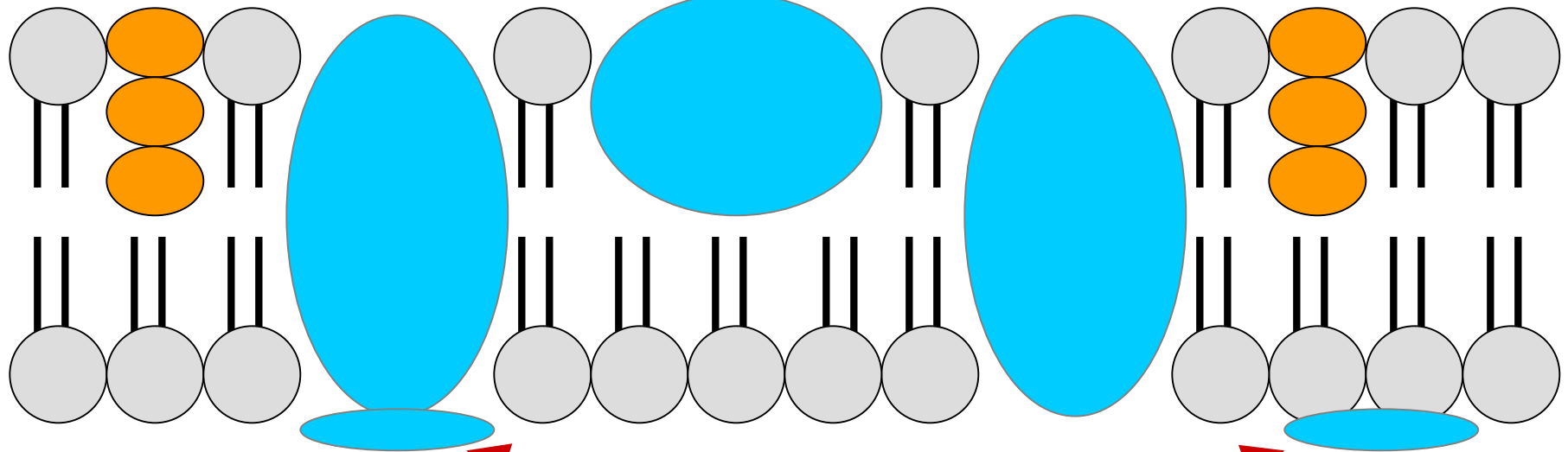
PERIPHERAL PROTEINS

NON-AMPHIPATHIC PROTEINS

INTEGRAL PROTEINS

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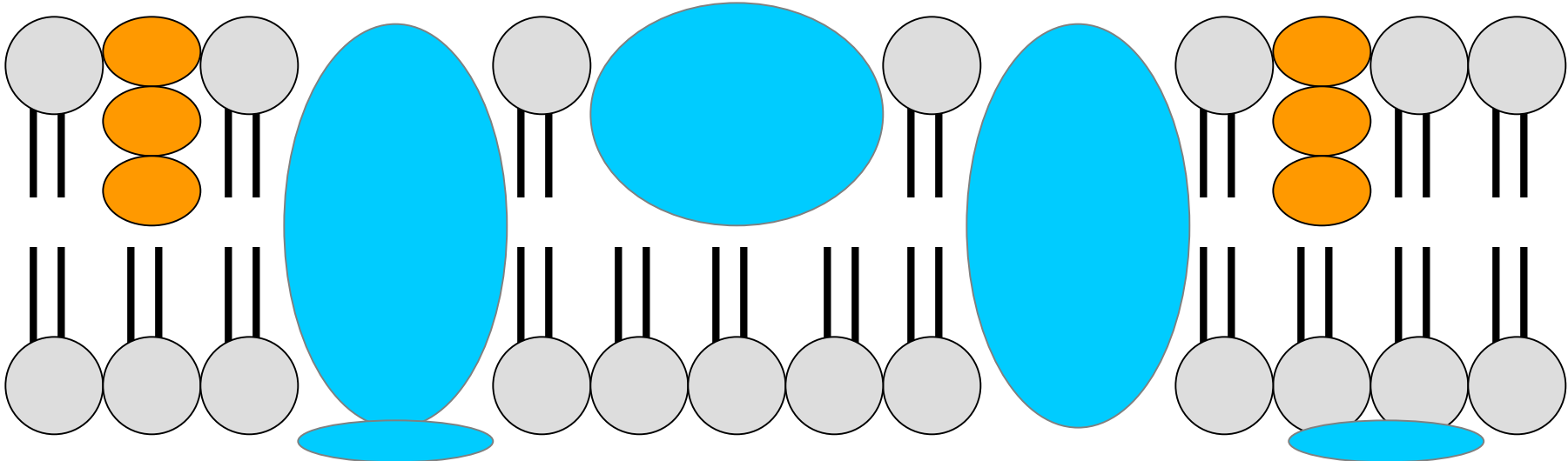
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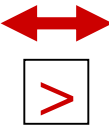
PERIPHERAL PROTEINS

PROTEINS
PRINCIPLE FUNCTIONAL
MEMBRANE COMPONENT



PROTEINS
PRINCIPLE FUNCTIONAL
MEMBRANE COMPONENT

PROTEINS



WATER

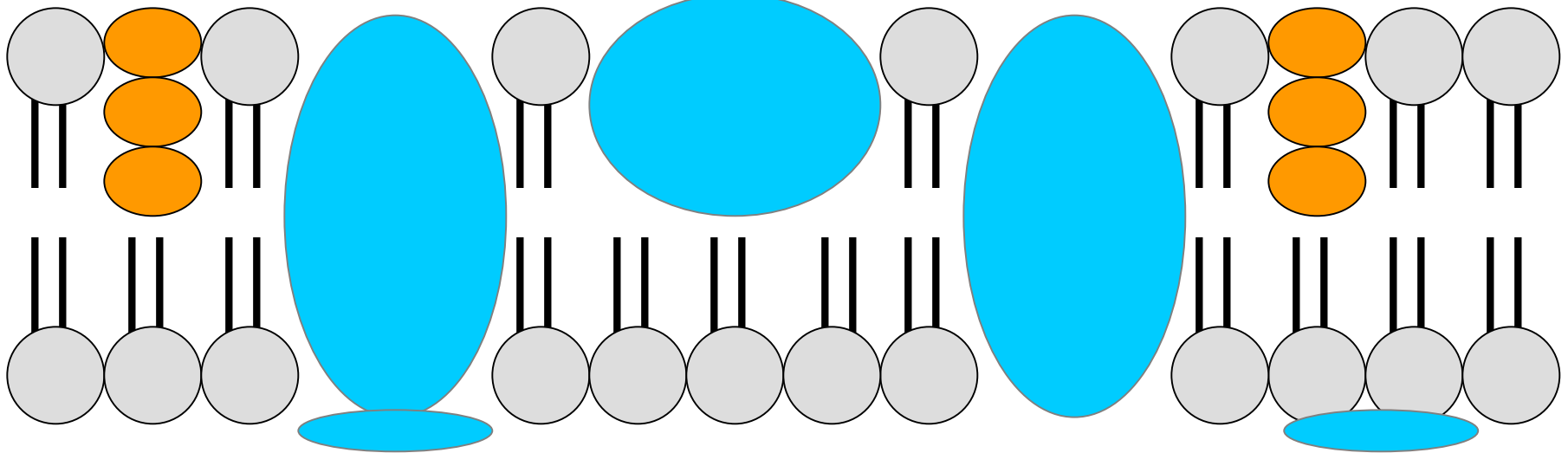
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PROTEINS

PROTEINS MOVE FREELY



WATER

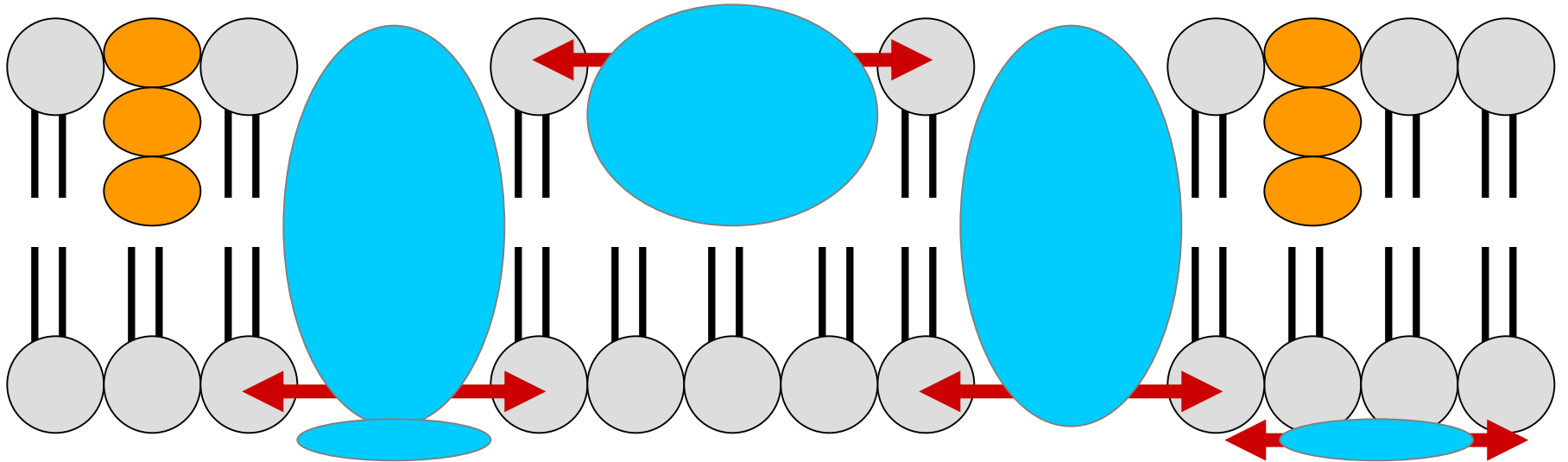
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PROTEINS MOVE FREELY