

Biotechnology and Biomanufacturing

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

Bacteria

Biomaterials

Buffer

Culture

DownstreamProcessing

Fermentation

Incubation

Media

PetriDish

Transformation

Balance

Bioreactor

Centrifuge

DaytonMADE

Ecoli

Fluorescence

Incubator

Micropipette

Plasmid

Biomanufacturing

Biotechnology

Chromatography

DNA

Enzyme

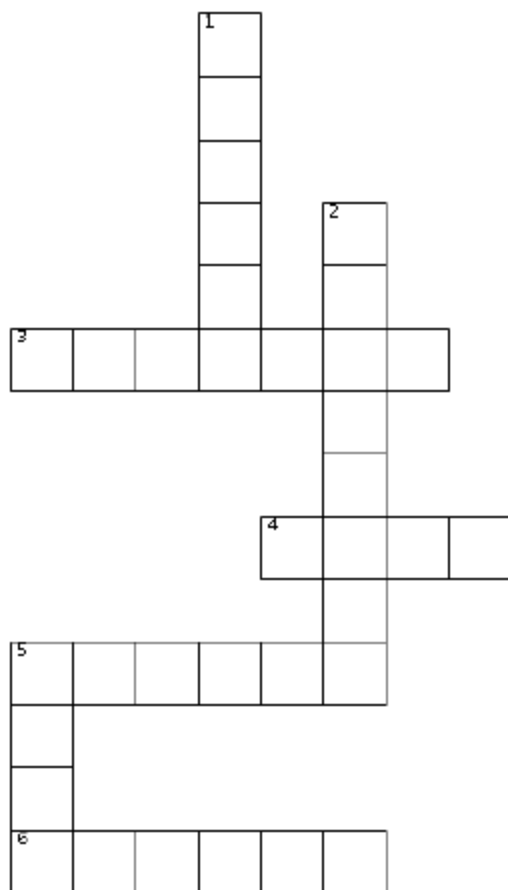
GeneticEngineering

Insulin

Organism

Protein

Gel Electrophoresis



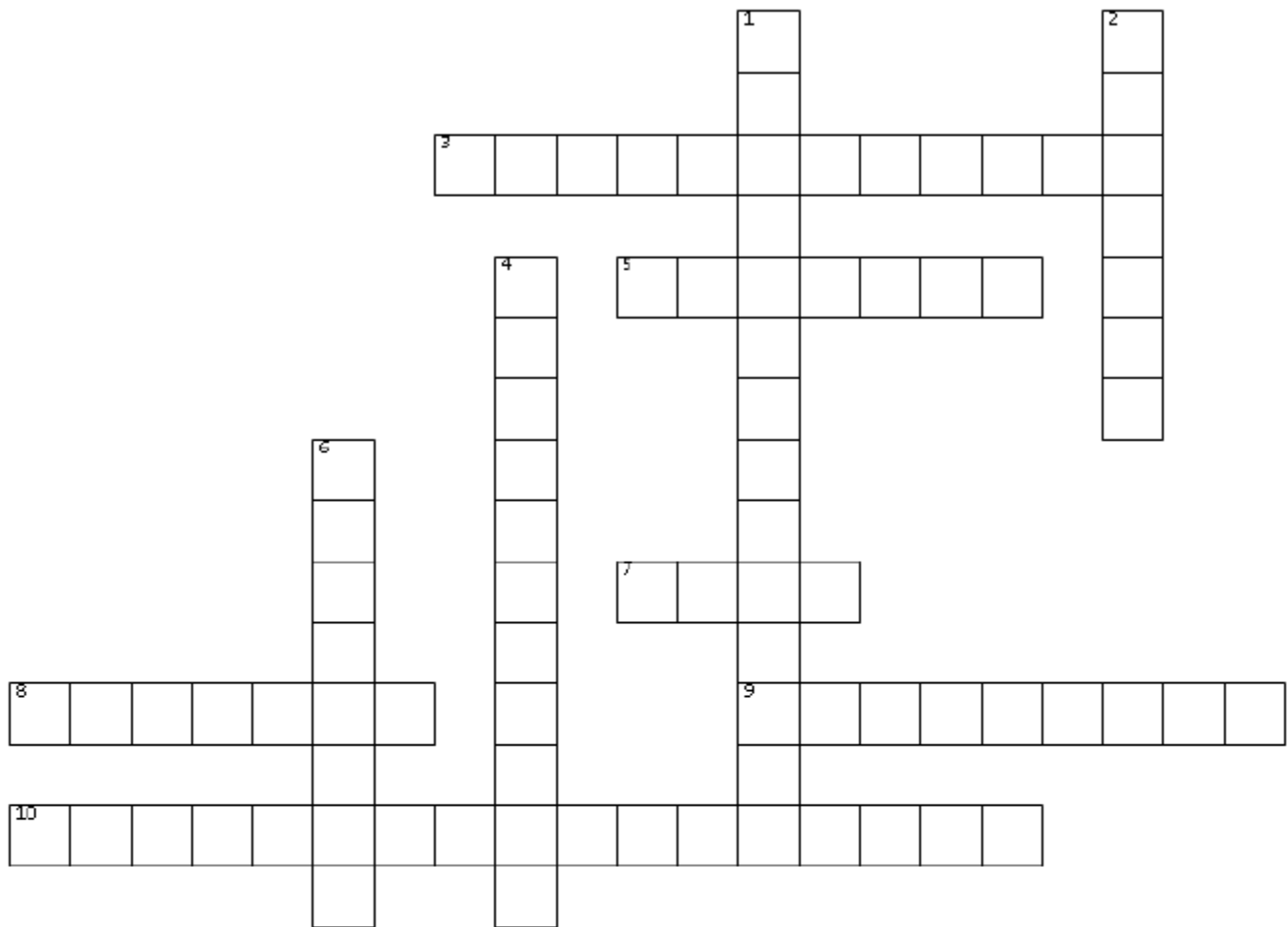
ACROSS

3. DNA gels are typically made of this substance.
4. This property determines how far the sample will travel.
5. This property determines the direction a sample will travel.
6. The liquid that the gel is submerged in while running.

DOWN

1. This is used to determine the size of a band when analyzing the gel.
2. Because DNA is net negative in charge, it will migrate towards the _____ electrode.
5. This is used to make the wells in the gel.

Genetic Engineering



ACROSS

3. The concept that genetic information flows from DNA to RNA to protein.
5. The first FDA-approved product developed through genetic engineering
7. Media used to grow bacteria on a plate.
8. Chemical used to turn on expression of a gene.
9. Piece of equipment used to grow bacteria at a certain temperature.
10. A protein used to cut or digest DNA at a specific site (two words)

DOWN

1. The process of inserting DNA into a cell.
2. A circular piece of DNA
4. The shape of DNA (two words)
6. A microorganism used to produce protein.

Biotechnology Tools and Equipment

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

Balance

Column

Gloves

IceBucket

Marker

PetriDish

StirBar

UVLight

Beaker

Flask

GraduatedCylinder

Incubator

Micropipette

SerologicalPipet

Tips

Vortex

Centrifuge

Glasses

HotPlate

LabCoat

Microwave

Spectrometer

Tubes

WaterBath

Help the scientist find their lab coat

