

MOSS Inc. Enzyme Substrates



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- Liquid mixtures of chemicals
- Used for medical testing
- Designed for specific enzymes
- Substrates undergo a change when used with enzyme conjugates to test a patient sample



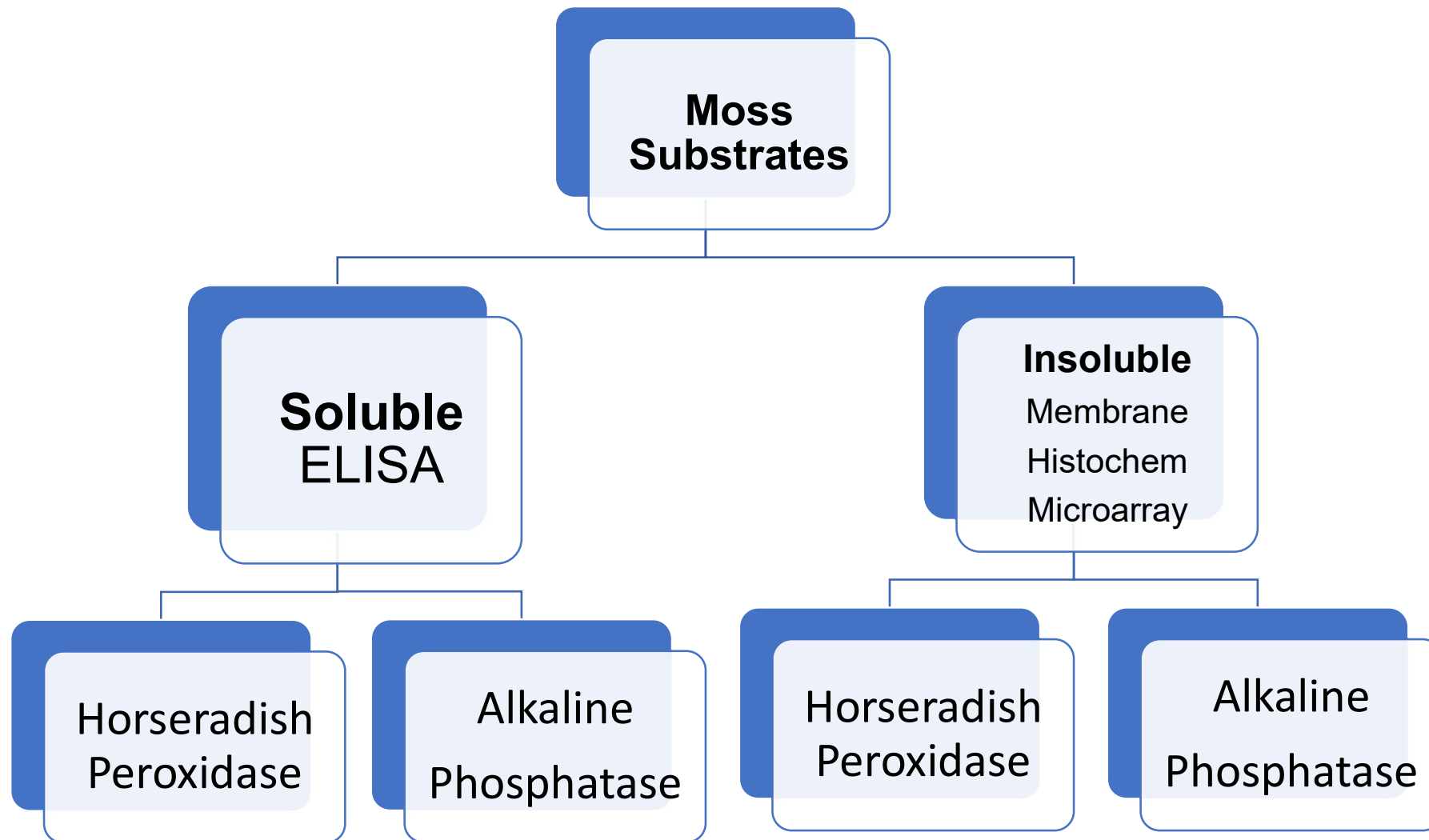
MOSS Inc. Enzyme Substrates

How are Moss substrates categorized?

- Two major enzyme categories
 - Horseradish Peroxidase
 - Alkaline Phosphatase
- Two major application categories
 - Soluble
 - Insoluble
- Two types of signal categories
 - Chromogenic
 - Luminogenic



MOSS Inc. Enzyme Substrates



Soluble Substrates by Enzyme Category

HRP

One Component

ABTS

TMBES

TMBE

TMBUS

TMBHK

Two Component

DAB

ChemiHRP

AP

One Component

NPPD

ChemiAP-RK

ChemiAP-MK

Two Component

PNPP (50x) +
PNPB



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Insoluble Substrates by Enzyme Category

HRP

One Component

TMBH

TMBM

TMBDR

TMBMX

Two Component

DAB

ChemiHRP

AP

One Component

NBTH (BCIP/NBT Plus)

NBTM (BCIP/NBT)

Two Component

Fast Red



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Best practices with Enzyme Substrates

- Pour out the volume needed
- Never introduce a pipet or any other device into the bottle
- Do not to return any liquid back into the bottle
- Minimize room light exposure
- Avoid any exposure to sunlight
- Use only recommended diluents and stop
- Keep bottles refrigerated



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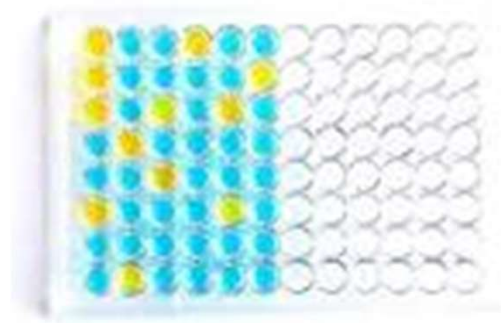
Limit of Detection in a Homogenous Assay

Enzyme	Product	Detection	Detection Limit
HRP	ABTS	415 nm Green	9 pg/well
HRP	TMBE-S	650 nm Blue, 450 nm Gold	4 pg/well
AP	NPPD	405 nm Yellow	2 pg/well
HRP	TMBE	650 nm Blue, 450 nm Gold	1 pg/well
HRP	TMBUS	650 nm Blue, 450 nm Gold	0.8 pg/well
HRP	TMBHK	650 nm Blue, 450 nm Gold	0.3 pg/well
HRP	ChemiHRP	Light Emission	0.18 pg/well
AP	ChemiAP	Light Emission	0.04 pg/well

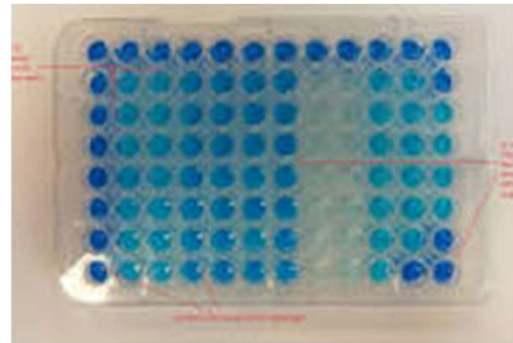


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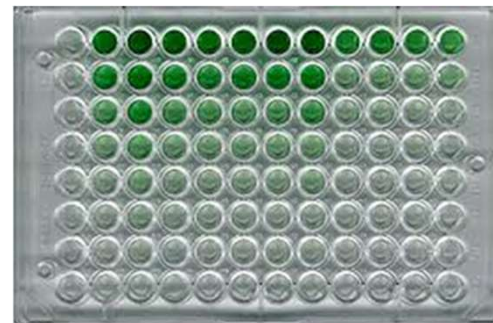
- TMB Blue and Gold



- TMB Blue

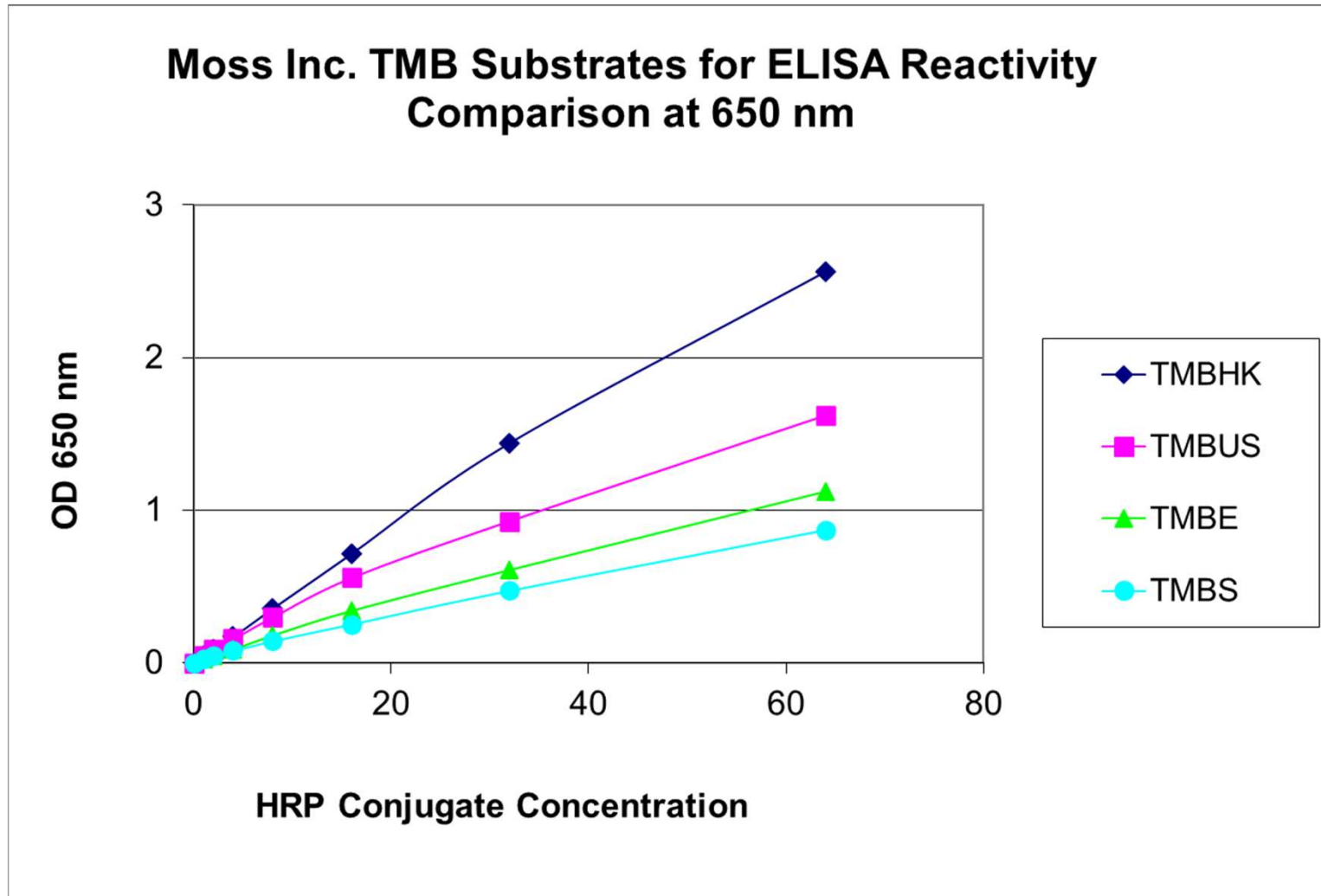


- ABTS Green



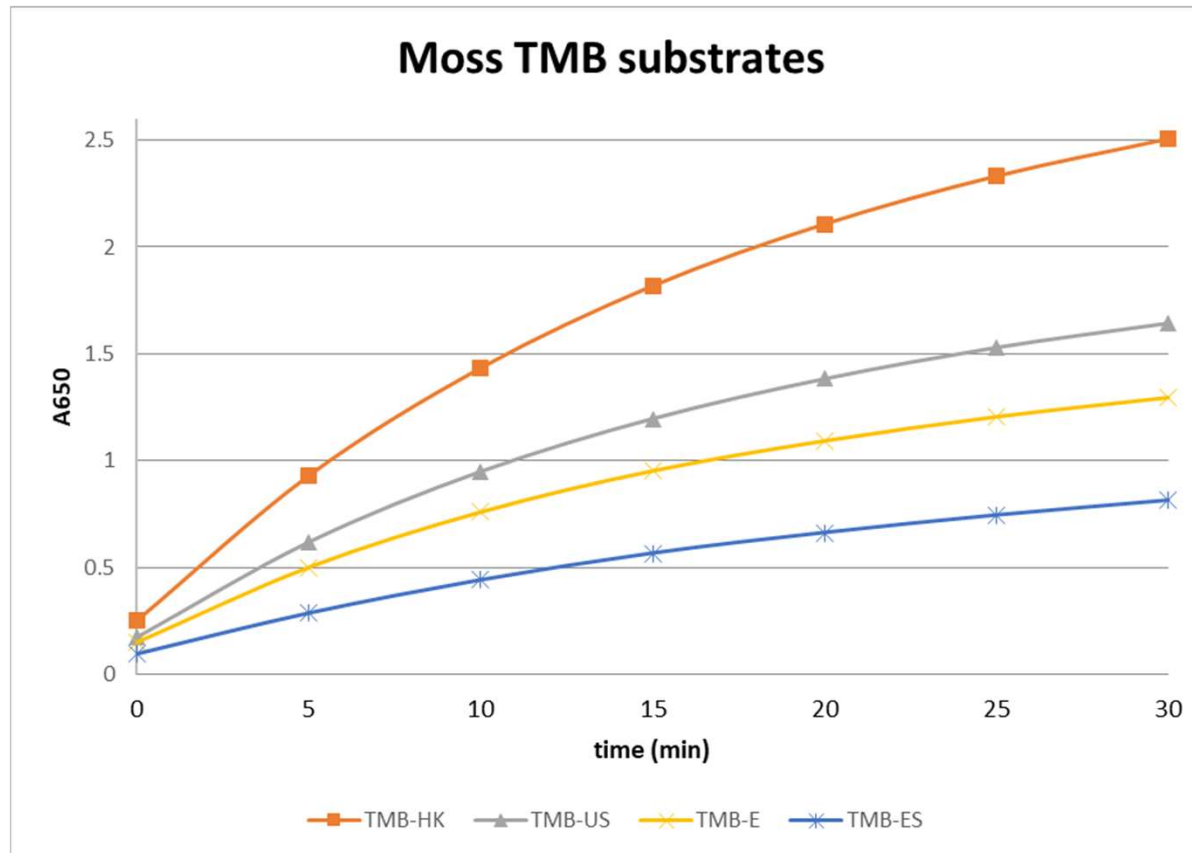


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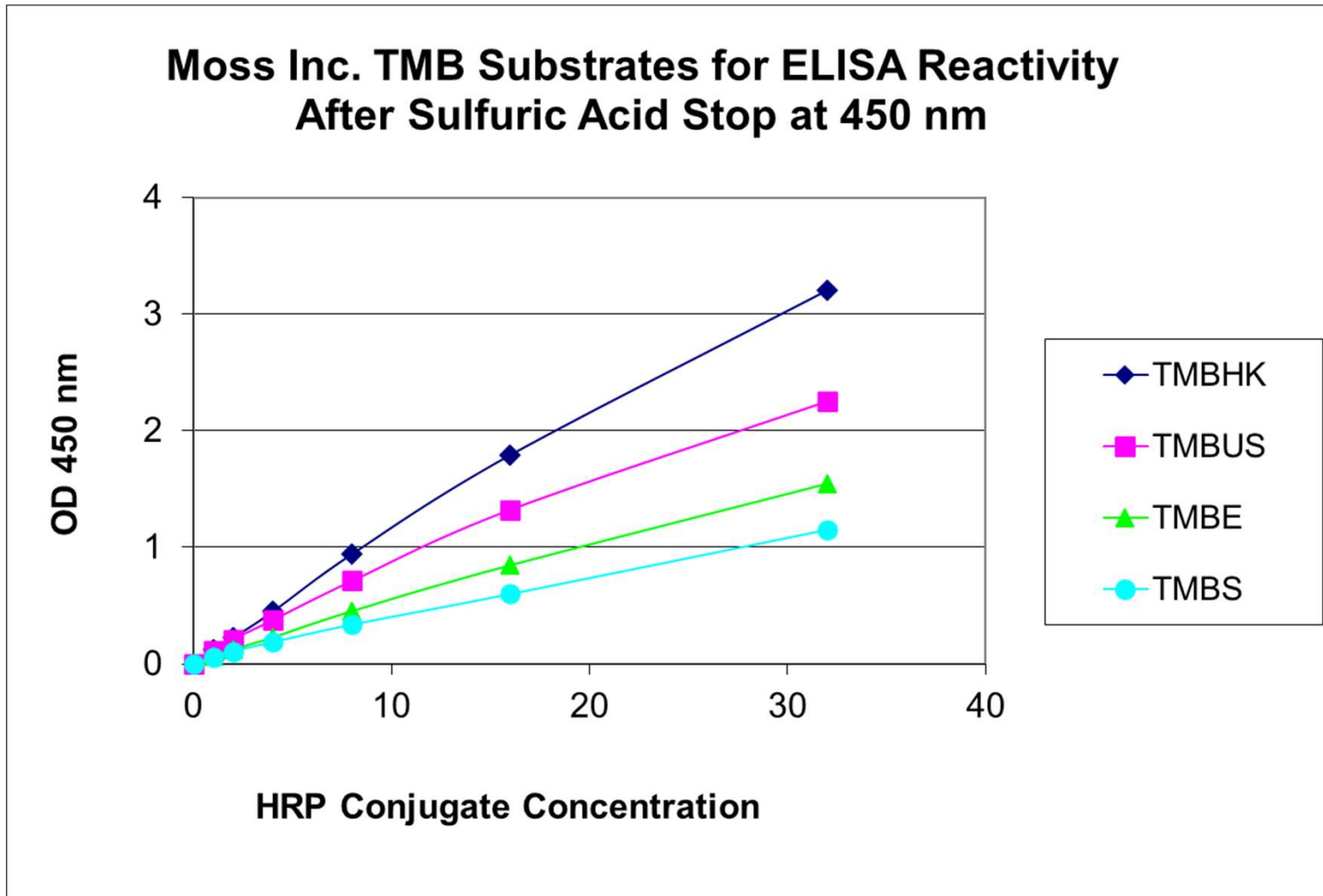
Stop Reagents for ELISA Substrates

- Stop reagents are acids, bases, detergents, or ions
- They stop color development so that an analyte can be accurately measured
- The stop reagent freezes or destroys the enzyme

Stop Reagent	Substrate	Active Agent	Stopped Color
Stop 650	TMB	Sodium Fluoride	Blue
Detergent	TMB	SDS	Blue
Universal Stop	TMB	Maleic Acid	Gold
Acid	TMB	Sulfuric Acid	Gold
Acid	TMB	Hydrochloric Acid	Gold
Acid	ABTS	Oxalic	Green
Base	NPPD, PNPP	Sodium Hydroxide	Yellow



MOSS Inc. Enzyme Substrates



Membrane Substrates

