



## Human SMAD Signaling Primer Library

**Catalog No:** HSMAD-1  
**Supplier:** RealTimePrimers  
**Lot No:** XXXXX  
**Supplied as:** solid  
**Stability:** store at -20°C

### Description

Contains 88 primer sets directed against SMAD signaling genes and 8 housekeeping genes. Provided in a 96-well microplate (20 ul - 10 uM). Perform up to 100 PCR arrays (based on 20 ul assay volume per reaction). Just add cDNA template and SYBR green master mix.

### Gene List:

- ACTA1 actin, alpha 1, skeletal muscle
- ACTA2 actin, alpha 2, smooth muscle, aorta
- ACTG1 actin, gamma 1
- ACTG2 actin, gamma 2, smooth muscle, enteric
- AXIN1 axin 1
- BMP1 bone morphogenetic protein 1
- BMP10 bone morphogenetic protein 10
- BMP15 bone morphogenetic protein 15
- BMP2 bone morphogenetic protein 2
- BMP3 bone morphogenetic protein 3
- BMP4 bone morphogenetic protein 4
- BMP5 bone morphogenetic protein 5
- BMP6 bone morphogenetic protein 6
- BMP7 bone morphogenetic protein 7
- CREBBP CREB binding protein
- CTBP1 C-terminal binding protein 1
- CTBP2 C-terminal binding protein 2
- DAB2 disabled homolog 2, mitogen-responsive phosphoprotein (Drosophila)
- EP300 E1A binding protein p300
- FLNA filamin A, alpha
- FLNB filamin B, beta
- FLNC filamin C, gamma
- FOXH1 forkhead box H1
- HACE1 HECT domain and ankyrin repeat containing E3 ubiquitin protein ligase 1
- HDAC1 histone deacetylase 1
- HDAC10 histone deacetylase 10
- HDAC11 histone deacetylase 11
- HDAC2 histone deacetylase 2
- HDAC3 histone deacetylase 3
- HDAC4 histone deacetylase 4
- HDAC5 histone deacetylase 5
- HDAC6 histone deacetylase 6
- HDAC7 histone deacetylase 7
- HDAC8 histone deacetylase 8
- HDAC9 histone deacetylase 9
- HECW1 HECT, C2 and WW domain containing E3 ubiquitin protein ligase 1
- ITCH itchy E3 ubiquitin protein ligase
- KPNB1 karyopherin (importin) beta 1
- LEFTY2 left-right determination factor 2
- PSMA2 proteasome (prosome, macropain) subunit, alpha type, 2
- PSMA3 proteasome (prosome, macropain) subunit, alpha type, 3
- PSMA4 proteasome (prosome, macropain) subunit, alpha type, 4
- PSMA6 proteasome (prosome, macropain) subunit, alpha type, 6
- PSMA7 proteasome (prosome, macropain) subunit, alpha type, 7
- PSMB10 proteasome (prosome, macropain) subunit, beta type, 10
- PSMB4 proteasome (prosome, macropain) subunit, beta type, 4
- PSMB5 proteasome (prosome, macropain) subunit, beta type, 5
- PSMB8 proteasome (prosome, macropain) subunit, beta type, 8 (large multifunctional peptidase 7)
- PSMB9 proteasome (prosome, macropain) subunit, beta type, 9 (large multifunctional peptidase 2)
- PSMC2 proteasome (prosome, macropain) 26S subunit, ATPase, 2
- PSMC3 proteasome (prosome, macropain) 26S subunit, ATPase, 3
- PSMC4 proteasome (prosome, macropain) 26S subunit, ATPase, 4
- PSMC5 proteasome (prosome, macropain) 26S subunit, ATPase, 5
- PSMD4 proteasome (prosome, macropain) 26S subunit, non- ATPase, 4
- RAB5A RAB5A, member RAS oncogene family
- RAB5B RAB5B, member RAS oncogene family
- RAB5C RAB5C, member RAS oncogene family
- RAN RAN, member RAS oncogene family



- RNF8 ring finger protein 8, E3 ubiquitin protein ligase
- SIN3A SIN3 transcription regulator homolog A (yeast)
- SIN3B SIN3 transcription regulator homolog B (yeast)
- SKI v-ski sarcoma viral oncogene homolog (avian)
- SKIL SKI-like oncogene
- SMAD2 SMAD family member 2
- SMAD3 SMAD family member 3
- SMAD4 SMAD family member 4
- SMAD7 SMAD family member 7
- SMURF1 SMAD specific E3 ubiquitin protein ligase 1
- SMURF2 SMAD specific E3 ubiquitin protein ligase 2
- STUB1 STIP1 homology and U-box containing protein 1, E3 ubiquitin protein ligase
- TGFB1 transforming growth factor, beta 1
- TGFB2 transforming growth factor, beta 2
- TGFB3 transforming growth factor, beta 3
- TGFBR1 transforming growth factor, beta receptor 1
- TGFBR2 transforming growth factor, beta receptor II (70/80kDa)
- TGFBRAP1 transforming growth factor, beta receptor associated protein 1
- TGIF1 TGF $\beta$ -induced factor homeobox 1
- UBB ubiquitin B
- UBC ubiquitin C
- UBD ubiquitin D
- UBE3A ubiquitin protein ligase E3A
- UBE3B ubiquitin protein ligase E3B
- UBE3C ubiquitin protein ligase E3C
- UBR1 ubiquitin protein ligase E3 component n-recognin 1
- UBR2 ubiquitin protein ligase E3 component n-recognin 2
- UBR5 ubiquitin protein ligase E3 component n-recognin 5
- WWP1 WW domain containing E3 ubiquitin protein ligase 1
- WWP2 WW domain containing E3 ubiquitin protein ligase 2
- ACTB Actin, beta
- B2M Beta-2-microglobulin
- GAPDH Glyceraldehyde-3-phosphate dehydrogenase
- GUSB Glucuronidase, beta
- HPRT1 Hypoxanthine phosphoribosyltransferase 1
- PGK1 Phosphoglycerate kinase 1
- PPIA Peptidylprolyl isomerase A
- RPL13A Ribosomal protein L13a

### Usage

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